A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES AT DINDIGUL DISTRICT

A DISSERTATION SUBMITTED TO

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY, CHENNAI.

IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR

THE DEGREE OF MASTER OF SCIENCE IN NURSING

OCTOBER – 2018

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CERTIFIED BONAFIDE WORK DONE BY

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INTERNAL EXAMINER **EXTERNAL EXAMINER**

1._____ **2. _____**

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College Seal _____

A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES AT DINDIGUL DISTRICT

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This is to certify that the dissertation entitled "**A Study To Assess The Effectiveness of Alternate Nostril Breathing On Blood pressure Among Hypertensive Clients In Selected Old Age Homes"** is a bonafide research work done by **S. Mercy Amali Chinnarani** in partial fulfillment of the requirement for the degree of Master of Science in Nursing (Medical and Surgical Nursing)

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ACKNOWLEDGMENT

"He makes all things beautiful in His time" Eccl 3:11

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Abstract

ABSTRACT

The reduction in the high blood pressure of the hypertensive clients has an important role to play in enabling the effectiveness of alternate nostril breathing intervention as an independent nursing intervention. Alternate nostril breathing (ANB) may modulate cardio-respiratory and autonomic functions. However, the studies are scarce and results highly conflicting. The present study was conducted in comprising of male and female in range of 40-70 years. In both groups systolic blood pressure and diastolic blood pressure , were recorded twice; once as control and then after 15 min (acute exposure) and following 7 days of training in ANB (15 min daily).

OBJECTIVES

1. To assess the pre test and post test level of Blood pressure among the hypertensive clients in experimental and control group.
2. To assess the effectiveness of alternate nostril breathing among hypertensive clients in experimental and control group.
3. To find the association between the posttest levels of blood pressure and their selected demographic variables of hypertensive clients in experimental and control group.

HYPOTHESIS

H1: The mean post test level of blood pressure (above 150 mmHg) will be significantly lower than the mean pre test level of blood pressure among hypertensive clients in experimental group.

H2: The alternate nostril breathing will be more effective in controlling the level of blood pressure among hypertensive client in the experimental group.

H3: There will be a significant association between the posttest levels of blood pressure readings with the selected demographic variables of hypertensive clients in experimental and control group.

MAJOR FINDINGS

Research design used for this study was quasi experimental design. The study was conducted in selected old age homes in Dinigul District. Purposive sampling technique was used to select each 30 sample in experimental and control group equally.

In pre-test control group blood pressure among old age which showed 6(20%) had mild hypertension, 16(53.3%) had moderate hypertension, 8(26.7%) had severe hypertension.

The post test control group revealed 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension.

In pre-test experimental group the Blood pressure among old age showed 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension.

The post test experimental group revealed 4(13.3%) had normal hypertension, 12(40%) had mild hypertension 14(46.7%) had moderate hypertension and nil severe hypertension.

This finding reveals that in experimental group after the alternative nostril breathing exercise the level of blood pressure among the hypertensive clients were reduced in post test than the pretest but in control group there is no change in blood pressure level among the hypertensive clients.

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Introduction

CHAPTER I

INTRODUCTION

"Aging is not lost youth but a new stage of opportunity and strength"

- Betty Friedan

Modern life has not only offered us convenience and comfort but along with them, several complications increasing our indolence, anxiety and stress. Hypertension frequently exists without producing symptoms which is often called a silent killer. Hypertension is a silent killer as early stages of this disease have no clinical manifestation other than raised blood pressure and there is no sign and symptom to lead a person to seek healthcare. This induces a major cause of death and disability the world over.

Hypertension is the single most important predictor of cardiovascular risk; blood pressure level is related to severity of atherosclerosis, stroke, nephropathy, peripheral vascular disease congestive heart failure. The risk factors associated with hypertension includes stress, obesity, high salted diet, high alcohol intake and lack of exercises. Aging is a natural process that begins at birth, a process that progresses throughout one's life and ends at death. Life expectancy continues to increase in developed countries, leading to ever-increasing representation of older adults (i.e. persons over 65 years of age) within the population. In fact, life expectancy worldwide has increased by 20 years since 1950. Among the potential targets for improving health among older adults, hypertension represents one of the most prevalent and potentially modifiable.

Bramlage and Hasford, (2009),conducted a study on socio-economic status and the therapeutic effectiveness of antihypertensive treatment – the design of the

LEO(Long term effectiveness of Olmesartan in different Socioeconomic group) study stated that hypertension causes over 7million premature deaths per year and contributes to 4.5% of the total disease burden worldwide**.** Notably, older adults account for the bulk of hypertension-related morbidity and mortality – due largely to dramatically greater prevalence among the elderly **(Mozaffarian et al., 2015).** In addition to the aging process, inflammation and oxidative stress have also each been associated with hypertension.

Campbell et al. (2009) Canada conducted a review confirmed that heavy alcohol consumption increases blood pressure regardless of gender or age. Drinking pattern was also observed by Russell et al. in 1991 and results showed that heavy drinking of alcohol increased the risk of developing high blood pressure and other cardiovascular diseases.

Puska et al.(2010) conducted cross sectional study stated that advance in technology today has also reduced level of morbidity at work. Most jobs demand sitting behind the desks for long hours during the day. This is followed by long hours enjoying television or video games at leisure time. As a result to this, most diseases as high blood pressure are directly related to the lack of exercise.

Keaney et al. (2012) Study has showed the high blood pressure mostly amongst adults aged 20-79 Age is unavoidable. Less activity as a result to ageing also causes high blood pressure. Impaired ability of the arteries to expand when blood is pumped can be attributed to hardening of the structural changes in the arteries. Hormonal changes as a result to ageing can as well cause high blood pressure. Changes as decrease in oestrogen production, underactive thyroid and overactive thyroid can as well influence the rise in the blood pressure. (Logan 2011.) It is known that high blood pressure usually develops in elderly women after menopause due to hormonal changes.

WHO (2013) stated that in Worldwide, high blood pressure is estimated to affect more than one in three adults aged 25 and over, or about one billion people. The theme of the World Health Day 2013 is "Measure your Blood pressure, reduce your risk" calling for intensified efforts to prevent and control Hypertension.

Despite the significance of the problem with respect to overall health, and its undesirable health consequences, high blood pressure still is not adequately controlled and far from being optimal. Due to plenty of etiological factors, hypertension would become a greater global burden in the next 15 - 20 years. The estimated total number of people with hypertension in India and worldwide is as follows:

Year	2000	2025
Worldwide	9.72 billion	15.6 billion
India	11.82 billion	21.25 billion
Tamil Nadu	8.62 million	15.3 million
Dindigul	2.1%	5.32%

Hence prevention of hypertension becomes an important goal to control blood pressure and reduce the incidence of hypertension-related cardiovascular and renal complications among the elderly people. Yogic techniques are known to improve one's overall performance. Alternate Nostril Breathing (breathing exercise) is known to be a part of yogic techniques. Some of the yoga techniques are Savitri Pranayama, Kapalbhati, Bhastrika Pranayama, Nadi suddhi Pranayama (Alternate nostril breathing), are well known among them. The breath is considered the basic force of life in many cultures. In India the Prana ("life or literally breathing forth") of yogic tradition signifies the universal life force as well as the life force as it enlivens the individual being. In Chinese tradition, Qi is the vital energy of life. A component of Qi

is called “Natural Air Qi” and is absorbed by the lungs from the air we breathe. The Bible states that “God breathed into Adam’s nostrils the breath of life”[12].

The World Health Report states that management of mild elevations of blood pressure can be achieved by non pharmacological measures. The hypertensive clients could adopt a simple relaxation technique that reduces stress and physiological effects. Then he or she would be able to control their blood pressure response during such physiologically stressful events.

Deep breathing takes the advantage of the fact that the lungs are larger toward the bottom than the top. Slow and Deep breathing can have a powerful influence on our health. when our breathing is full and deep, the diaphragm moves through its entire range downward to massage liver, stomach and other organs and tissues below it, and upward to massage the heart. when our breathing is full and deep, the belly, lower ribcage, and lower back all expand on inhalation, thus drawing the diaphragm down deeper into the abdomen, and retract on exhalation, allowing the diaphragm to move fully upward toward the heart and improves vagal activity and therefore decreases baseline heart rate and blood pressure.

Shakeshaft, (2012), Egypt, conducted a quasi experimental study States that Alternate nostril breathing increases blood and oxygen flow to the brain to function in its optimal state. It creates a connection between mind and body that can lead to greater self-awareness, mindfulness and clear thinking, improves circulation, and helps the body eliminate toxins, as well as reduces stress. Hence, practicing deep breathing exercise influence autonomic functions and has therapeutic benefit to hypertensive patients (Almahrezi, et al., 2008), therefore this study was undertaken to find a nonpharmacological method for managing essential hypertension by using Alternate Nostril Breathing exercises.

All the above information confirmed the fact that hypertension is a killer disease on the rise. Pharmacological measures alone cannot help to manage the high blood pressure. Moreover hypertensive clients residing in old age homes are under more stress which is a primary cause for hypertension, as they are leading a solitude life so the investigator felt that relaxation exercise would definitely help the hypertensive clients to regulate their blood pressure.

NEED FOR THE STUDY

Hypertension, also known as high blood pressure, is a long-term medical condition in which the blood pressure in the arteries is persistently elevated. High blood pressure is classified as either primary high blood pressure or secondary high blood pressure. About 90-95% of cases are primary, defined as high blood pressure due to nonspecific life style and genetic factors. The remaining 5-10%of cases is categorized as secondary high blood pressure due to chronic kidney disease, narrowing of the kidney arteries, and endocrine disorders.

High blood pressure is ranked as the third most important risk factor for attributable burden of disease in south Asia (2010). The situation in India is more alarming. A survey of 26,000 adults in South India showed a hypertension prevalence of 20% (men 23% and women 17%) but 67% of those with hypertension was unaware of their diagnosis. Majority of hypertensive subjects still remain undetected and the control of hypertension is also inadequate. This calls for urgent prevention and control measures for hypertension.

Gilbert G., (2003) **San Francisco,** conducted cross sectional study stated that breathing training was widely used as an aid in reducing functional chest disorder and chronic obstructive pulmonary disease (COPD) where deviations from an optimal breathing pattern is found. The breathing volume is closely matched to the metabolic

needs. Such disordered breathing has varying effects on acid/base balance, arterial diameter and sodium retention by the kidneys. Therefore a chronic breathing imbalance could contribute to pathophysiology, which could be remedied to an extent by altering the habitual breathing patterns. Slow breathing is important from the stand point of health.

David W. Fleming (2010) Mitka, chair of the committee that prepared the report said that although hypertension is relatively easy to prevent, simple to diagnose, and relatively inexpensive to treat, it remains the second leading cause of death among Americans, and as such should rightly be called a neglected disease",. Proper screening and adherence to treatment guidelines was particularly emphasized for elderly patients. hypertension is a common disease with significant morbidity and mortality, and anticipated to increase to almost 30% by 2025 (Williams, 2013).

Naik (2011) Maharashtra conducted a study on the effect of left nostril breathing in hypertensive patient. 30 numbers of hypertensive patients who were taking regular treatment were the study subjects. A baseline record of Pulse rate and blood pressure were recorded. Left nostril breathing exercises was carried out for 5 minutes and again the parameters were checked. Results of this study projected that the mean pulse rate dropped from 84.73 ± 1.89 per minute to 81.80 ± 1.84 minute. Systolic blood pressure dropped from 144.50 ± 3.68 mmHg to 133.83 ± 3.6mmHg. Diastolic blood pressure dropped from 100.96 ± 2.48 mmHg to 94.83 ± 2.4 mmHg. This study revealed that blood pressure and pulse rate can be decreased in non pharmacological way.

Hasumi Takahiro et al., (2015), stated that practice of alternate nostril breathing showed significant decrease in systolic blood pressure, and increases parasympathetic activity. In a previous study, alternate nostril breathing was shown to significantly decrease in systolic and diastolic blood pressure, while improving the

performing in a task requiring attention, bimanual dexterity and visual-motor coordination in patient with hypertension. Therefore this study was undertaken to find a non pharmacological method for managing essential hypertension by using Alternate Nostril Breathing exercises. Regular practice of Alternate Nostril Breathing was shown to produce reduction in the sympathetic tone within a period as short as 15 days.

STATEMENT OF THE PROBLEM

A Study to Assess the Effectiveness of Alternate Nostril Breathing on Blood pressure among Hypertensive Clients in Selected Old Age Homes at Dindigul District.

OBJECTIVES

1. To assess the pre test and post test level of blood pressure among the hypertensive clients in experimental and control group.
2. To assess the effectiveness of alternate nostril breathing among hypertensive clients of the experimental group.
3. To find the association between the posttest levels of blood pressure and their selected demographic variables of hypertensive clients in experimental and control group.

HYPOTHESIS

H_1: The mean post test level of blood pressure (above 130 mmHg) will be significantly lower than the mean pre test level of blood pressure among hypertensive elderly client in experimental group.

H_2: The alternate nostril breathing will be more effective in controlling the level of blood pressure among hypertensive client in the experimental group.

H_3: There will be a significant association between the posttest levels of blood pressure readings with the selected demographic variables of hypertensive clients in experimental and control group.

OPERATIONAL DEFINITIONS

Effectiveness

Effectiveness is the degree to which something is successful in producing a desired result or success.

In this study it refers to the extent to which breathing exercises has achieved the desired effect by reducing the blood pressure among hypertensive clients as assessed by World Health Organization (WHO) recommended blood pressure Category Table.

Alternate Nostril Breathing

It is a breathing technique of Hatha yoga.

In this study the client is asked to hold the right thumb over the right nostril and inhale deeply through the left nostril. Then at the peak of inhalation, the left nostril is closed with the ringer finger and exhalation is done through the right nostril

Hypertensive Client

A male or female individual who has been diagnosed as hypertensive (systolic Blood pressure >150 mmHg and/or diastolic blood pressure > 90 mmHg or greater) between the age group of 60 – 75 years.

Breathing

The process of respiration during which air is inhaled in to the lugs through alternate nostril and is exhaled through the nostril opposite to the inhaled nostril.

Blood pressure

Blood pressure is the measure a quantified physical sign, using only a crude sphygmograph to estimate arterial tension

Old Age Home

It refers to an institution providing professional care to the elderly like their residential setting where the inmates get all the facilities for a routine living like food, clothing and shelter.

ASSUMPTIONS

1. Altered nostril breathing will reduce the level of blood pressure among the hypertensive client.
2. Altered nostril breathing has no adverse effect on client with hypertension.
3. Most of the elderly clients are subjected to hypertension.

DELIMITATIONS

- The study was limited to elderly clients with hypertension between the age of 60–75 years.
- The study was limited to selected old age homes in Dindigul District.
- Data collection period is limited to 6 weeks.

PROJECTED OUTCOME

This study was conducted to evaluate the effectiveness of alternate nostril breathing on hypertensive clients and to awaken the interest in non-pharmacological treatment approaches to hypertension. Finding of this study will help to use alternative nostril breathing exercise to reduce hypertension or maintain the normal blood pressure.

Chapter II

Review of literature

CHAPTER II

REVIEW OF LITERATURE

Review of literature is a systematic identification, location, security and summary of written materials that contain information on research problem.

The review of literature is conducted to generate a picture of what is known and unknown about a particular topic. The primary purpose for obtaining relevant literature is to gain a broad understanding of the problem. The literature review explains the relation of topic and research aims to significant literature and recent research in the field.

S.K. Sharma defined that review of literature is a broad, comprehensive, in depth, systematic and critical review of scholarly publication, unpublished printed or audio visual materials and personal communication.

The review of literature has been organized under the following sections:

Section I : 2.1. Literature related to hypertension.

Section II : 2. 2. Literature related to Breathing exercise and its benefits

Section III : 2. 3. Literature related to effect of breathing exercises on Blood pressure.

2. 1. Literature related to hypertension.

High blood pressure is a major public health problem in India and its prevalence is rapidly increasing among both urban and rural populations.

Gupta(1993), Jaipur conducted a cross sectional study on prevalence of hypertension in selected cities in India shows a high prevalence of Hypertension among urban adult (male: female) i.e. 30: 33 per cent in Jaipur (1995) 44:45 per cent in Mumbai (1999); 31:36 per cent in Thiruvananthapuram (2000) and 14 per cent in Chennai

(2001). Among the rural population, Hypertension prevalence was 24 (men) and 17 per cent (women) in Rajasthan (1994) and 4.5 per cent in rural subjects in Haryana (1999). Moreover, the overall prevalence of blood pressure was reported to be 25 per cent in urban and 10 per cent in rural population of India, out of which 70 per cent were in Stage I HTN (140 -159 systolic and /or diastolic blood pressure 90 – 99 mmHg). Borderline HTN and Stage I HTN carried a significant cardiovascular risk and thereby necessitated a need of population based cost effective Hypertension control strategies to be developed.

Sampatti ST et al.,(2009), Maharashtra, conducted a community-based cross-sectional study to find out prevalence of hypertension in rural areas. The subjects were 1297 persons aged 19 years and above. A house-to-house survey was conducted and interviewed the participants by systematic random sampling method, using pretested structured standard questionnaire. Two independent blood pressure (blood pressure) readings were taken in sitting position by visiting each participant at their home. Overall prevalence of hypertension in the study subjects was 7.24%. Multiple logistic regression analysis identified various factors significantly associated with 42 hypertension were age, sex, BMI, additional salt intake, smoking, DM, alcohol consumption, and higher socioeconomic status. The overall prevalence of hypertension in study subjects was 7.24%.

Rajeev Gupta and Soneil Guptha (2010) Jaipur, Conducted the study on Strategies for initial management of hypertension. Life style changes should be the initial approach to hypertension management and include dietary intervention, weight reduction, tobacco cessation, physical exercise, and stress management. In a meta analysis of 61 studies involving more than a million patients with hypertension was observed that reducing systolic as well as diastolic blood pressure reduced

cardiovascular events. This can be achieved by non-pharmacological (Life style measures) as well as pharmacological means. Life style modifications have the potential to prevent hyper tension and importantly controlled blood pressure therapies can facilitate drug step-down in individual who can sustain life style changes.

Dutta A and Ray [2012], West Bengal, A population-based cross-sectional study was conducted among 1186 remote women participants, aged 18 years or more. They studied the prevalence of hypertension, prehypertension and tachycardia among the women in rural areas. Identify co-factors associated with the prevalence and contribute to the body of evidence for future health programs to identify at-risk groups. They were interviewed using standard structured questionnaire. For each participant, two blood pressure measurements with an interval of 48 hours. Overall prevalence of hypertension in the study subjects was 24.7% and that of pre-hypertension and tachycardia was 40.8% and 6.4%, respectively. Both hypertension and pre-hypertension were seen to increase with age.

S. A. Rizwan et,al (2014) Megalaya conducted a study on Prevalence of Hypertension in Indian Tribes: A Systematic Review and Meta-Analysis of Observational Studies In India there is an increasing trend in hypertension prevalence among the general population. Studies have shown that tribal populations in India are also experiencing this burden. Twenty studies or 53 subpopulations with 64 674 subjects were included in final review. The pooled estimate of hypertension prevalence was 16.1%. Subgroup analyses showed that year of study, acculturation status, special features, and BP measurement techniques significantly influenced prevalence, but after meta-regression analyses, ‘decade of study’ remained the only covariate that significantly and independently influenced.

These corroborating evidences highlight the vulnerability of tribal groups to illness states that were so far considered to affect only the well-off urban masses. It has to be recognised widely that tribes face newer emerging health problems, in addition to the conventional diseases [46]. The Government of India has committed itself to the advancement of such underserved groups through various schemes and had set up a dedicated ministry for tribal affairs. Findings of this study would help appraise concerned policy makers of the changing health needs of tribal communities in India.

Amrinder singh et al, (2014) Amritsar, Punjab, conducted a study on prevalence of hypertension and its risk factors among urban Sikh population of the sample size of 1089 subjects was calculated as they constitute 70% according to 2011 census report. Each zone constituted of 13 Censes wards .The list provided the name, age and address of those eligible for voting (>18 years). The fieldwork was completed in a period of 20 months, starting in Jan 2012. The totals of 215 subjects from each zone were randomly selected. The blood was analyzed for serum cholesterol, (CHO), The anthropometric readings were taken namely height, weight, waist (WC) and hip circumference (HC). The association of the categorical variables with outcomes was seen by the Chi Square test p values less than 0.05 were taken.

Didem A et al. (2017) western Turkey, This population-based cross-sectional study was conducted in two settlements in a region. The study carried out to determine the frequency and risk factors of hypertension among individuals aged 50 years and over and to examine its effect on the health related quality of life (HRQOL). A questionnaire concerning life habits associated with hypertension, medical histories, and demographic characteristics was filled in by a face to face interview. The SF-36 scale was used to assess HRQOL. Body mass index (BMI) was calculated by measuring the weight and length of the body. The results revealed that 1193 participated in the

survey (48.3% men and 51.7% women). The overall prevalence rate of hypertension was 59.5%, being 58.0% in men and 60.9% in women. The variables that most positively influenced hypertension were older age (especially the age group of those aged 60 and over), single, no health insurance, consumption of animal fat in meals, and family history of hypertension.

2. 2. Literature related to effect of breathing exercise and its Benefits

Selvamurthy W et al., (1998), Timarpur, Delhi, conducted a study on 20 male patients of Essential Hypertension (EH) in order to find out whether by restoration of baroreflex sensitivity to normal level by alternate nostril breathing the essential hypertension could be cured or controlled. Group-I (age 34 +/- 1.7 years) was subjected to a 3 week course for 30 min daily, while in group-II (age 50 +/- 3.3 years), specific head-up or head-down tilt were administered for the same duration. At the end of 3 weeks, there was a significant reduction in blood pressure in hypertensive clients who practiced the alternate nostril breathing.

Seema Maini et al., (2011) Jallandhar, Punjab, conducted a study to highlight hemodynamic effects of alternate nostril breathing by studying its impact on blood pressure. The study was conducted on 100 healthy subjects (50 experimental and 50 controls) from Brahma Kumari Ashram. A systolic and diastolic blood pressure was recorded. The results revealed that mean systolic blood pressure, diastolic blood pressure were significantly lower in subjects who practised alternate nostril breathing regularly than in subjects who did not perform alternate nostril breathing exercise. The study concluded that Yoga and alternate nostril breathing exercise, given its positive effects on physiology of human body, if practiced regularly, can emerge as one of the important non-pharmacological method of prevention of heart disease.

Deepa T. et al. (2012) Chennai conducted a study to evaluate the Effect of breathing exercise on 15 mild to moderate essential hypertensive clients were treated with antihypertensive drugs along with nostril breathing. The study showed a significant fall of mean blood pressure after 3 months of nostril breathing. Results of this study suggest that nostril breathing can be used as adjunctive treatment with drug therapy on mild and moderate essential hypertensives.

Chanda Rajak et al. (2012), nasik, assessed whether regular practice of alternate breathing exercise for six months can reduce the cardiovascular hyper-reactivity induced by cold pressor test. The study group comprised 75 healthy subjects of 25-45 years age group. Initially there were 27 hyper reactors to cold pressor test. The hyper-reactivity of 22 volunteers converted to hypo-reactivity after the breathing exercise for six months (81.48%). Other parameters like basal blood pressure, rise in blood pressure, pulse rate and rate of respiration were also statistically significantly reduced after the breathing exercise.

Mizuno J & Monteiro HL., (2012) Brazil conducted a quasi-experimental study describes the effects of a alternate nostril breathing exercise following hemodynamic and biochemical parameters in patients with hypertension. Thirty-three volunteers participated in the study (control = 16 and yoga = 17) for four months. Blood pressure measurements, cardiac and respiratory rate were collected monthly, while the biochemical profile was taken at the beginning and end of the program. The breathing exercise clients showed a significant reduction of systolic blood pressure, heart and respiratory rate.

2. 3. Literature related to effect of alternate breathing on Blood pressure

Cea Ugarte et al. (1999), Brazil carried a study on the occurrence of breathing controlled by respiratory cycle comprised of short inhalations and long exhalations. The

results showed a significant decrease regarding the baseline parameter for both systolic and diastolic arterial pressure at the end of treatment which had 8 sessions, at six months and at 2 years. The systolic and diastolic values fall within the recommended WHO values in 1999.

Groenier et al. (2009) The Netherlands, quoted a study on the effect of alternate breathing exercise in Hypertensive patients. A randomised single-blind controlled trial was conducted over a period of 8 weeks to evaluate the effect of this therapy on blood pressure and Quality of life. The control group practiced the breathing exercise and used no other therapeutic device. Blood pressure and QOL changes were studied in 30 patients with Hypertension. The effects of respiratory exercise on blood pressure & QOL were not significantly different from these found in the control group. Furthermore 40% of patients did not reach the target breathing frequency, making this device less suitable for clinical practice in patients by means of Hypertension and alternate breathing was effective for practice and maintain the blood pressure and quality of Life.

Pramanik et al. (2009), Nepal conducted a study to evaluate the immediate effect of slow pace bhastrika pranayama (slow breathing) for 5 minutes on heart rate and blood pressure and the effect of the same breathing exercise for the same duration of time (5 mins). It was noted that after slow bhastrika pranayamic breathing for 5 mins, both the systolic and diastolic blood pressure decreased significantly with a slight fall in heart rate. significant alteration in both blood pressure and Heart rate was observed in Volunteers who performed the same breathing exercise.

Anderson (2010) Baltimore, MD, USA, conducted a qualitative research study on regular slow breathing exercise effect on blood pressure and breathing patterns at rest. The sample was 40 participants with pre hypertension or stage1 hypertension were

taught Alternate Nostril Breathing (ANB) daily for 15 minutes. Participants practiced breathing exercise at home for 4 weeks. The result showed that the alternate nostril breathing intervention decreased clinic resting blood pressure mid day ambulatory systolic blood pressure and resting breathing rate and increased resting tidal volume. This study concluded that a short term autonomic mechanism mediated the observed changes in resting blood pressure.

Amandeep (2011) Faridkot, Punjab, conducted a research design on quasi experimental group on effectiveness of alternate nostril breathing on blood pressure among hypertensive patients, with two group pre and post test design. The sample was 60, primary hypertensive patients, in which 30 subjects were allotted to experimental and control groups respectively. re-test and post-test blood pressure were taken on day1, 2, 3 and 11 for both the groups. The result revealed that the post-test mean score of blood pressure in the experimental group was significantly less than that of control group.

Bhavarani (2012) Puducherry, conducted a study on immediate effect of Chandra nadipranayama (left unilateral forced nostril breathing) on cardiovascular parameters in hypertensive patients. The subjects were 12 males and 10 females with essential hypertension under regular standard medical management for more than 5 years. The subjects were taught to perform Chandra nadi pranayama (CNP). They were made to breath at a slow pace for a count of 5(6 breaths/min), taking nearly 5 minutes to complete 27 rounds of CNP. After the intervention heart rate and blood pressure were measured. The result revealed an immediate decrease in all the cardiovascular parameters with the decrease in heart rate(HR),systolic pressure(SP),diastolic pressure(DP), pulse pressure(PP),mean pressure(MP),rate-pressure product(RPP). This

study concluded that CNP is effective in reducing heart rate and systolic pressure in hypertensive patients in regular standard medical management.

Anshuman Naik et.al (2012) Maharashtra, 30 hypertensive patients who were on regular treatment took part in the study. A baseline record (which served as control) of pulse rate/min, systolic blood pressure (Systolic blood pressure in mmHg), diastolic blood pressure (diastolic blood pressure in mmHg) were recorded. A standard sphygmomanometer of (Diamond, India) of ISI mark was used along with microtone stethoscope to assess blood pressure. They carried-out left nostril breathin for 5 minutes only and all parameters were recorded again. Patients were asked to close their right nostril by the thumb and slowly breathe in up to maximum, through left nostril. After 1 week of alternate nostril breathing they found there is decrease in the systolic and diastolic blood pressure.

Naveen K et al. (2013) At San Diego, USA conducted a study on the effect of alternate nostril breathing through a particular nostril on spatial memory scores without lateralized effect. School children (N=108 whose ages ranged from 10 -17 yrs) were randomly assigned to 4 groups. Each group practiced a specific breathing technique: i) right nostril ii) left nostril iii) Alternate nostril breathing or iv) breath awareness without manipulation of nostrils. These techniques were practiced for 10 days. Verbal and spatial memory was assessed initially and after 10 days. All 4 trained groups showed a significant increase in spatial test scores. It showed that alternate nostril breathing increase spatial rather than Verbal Scores.

Ranjana Ganpat., (2013) Pune Conducted a study on the effectiveness of alternate nostril breathing on blood pressure of hypertensive patients. Hypertension is directly connected with circulation, respiration and function of vital organs. So alternate nostril breathing emphasis on promotion, prevention and curative measures and helps

to maintain normal blood pressure. The day wise statistical distribution of blood pressure level before and after pranayma shows highly significant difference between blood pressure from day 1, day 8 and day 10. i.e Systolic blood pressure from 154.53 mmHg (SD7.53) to 133.2 mmHg (SD 6.14) and Diastolic blood pressure from 93.8mmHg (SD 4.99) to 82.26 mmHg (SD 5.24). Paired t-test for blood pressure before and after alternate nostril breathing shows **P value 0.0034,which very less than 0.01 therefore the effect of alternate nostril breathing on blood pressure of hypertensive samples is highly significant.

CONCEPTUAL FRAMEWORK

Polit and Hungler stated that the conceptual framework is inter related concepts on abstractions that are assembled to-gether in some rational by virtue of this relevance to a common scheme. It is a device that helps to stimulate research and the extension of knowledge by providing both direction and impetus.

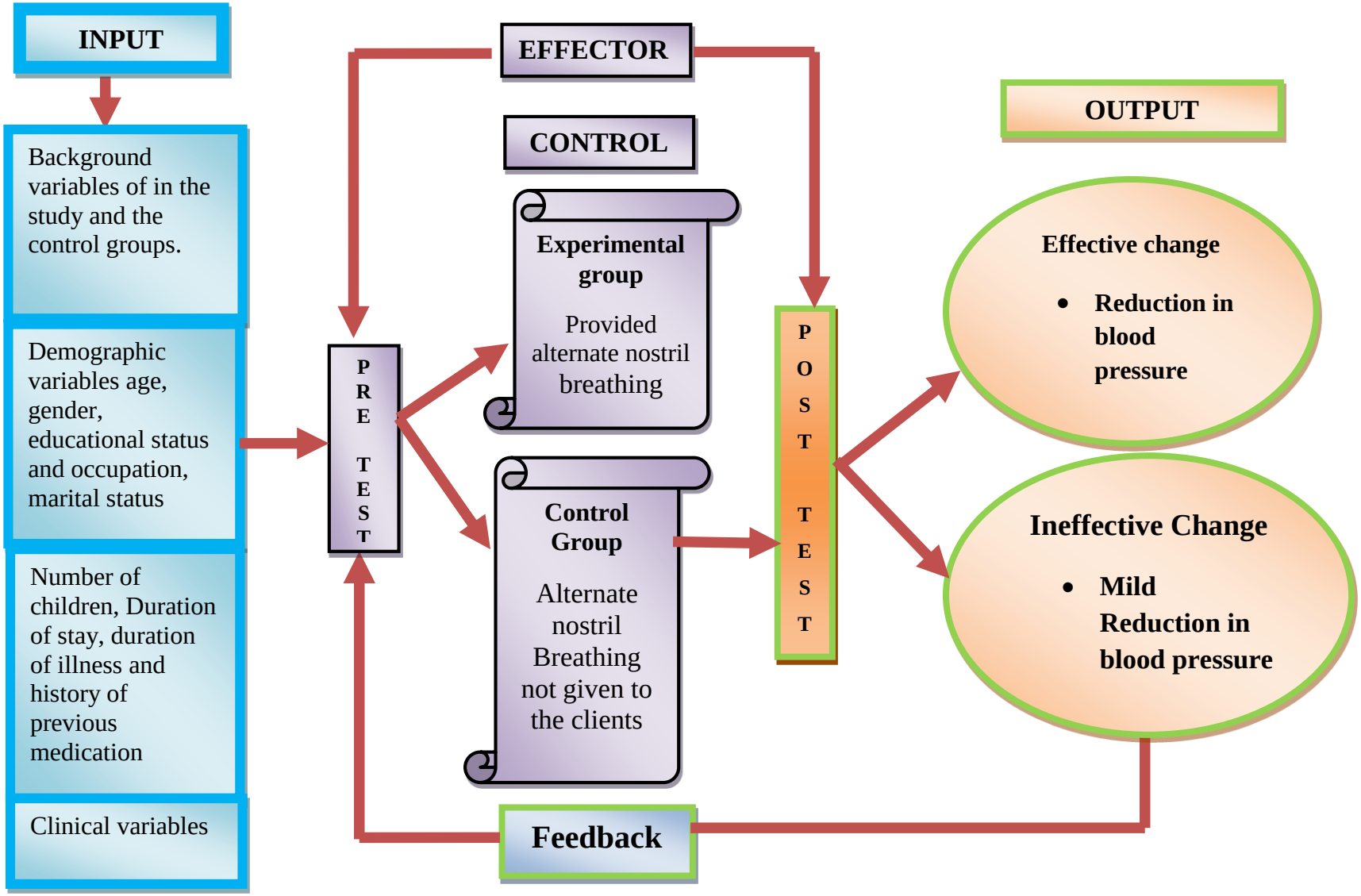
The conceptual framework of the present study is based on Callista Roy's Adaptation Model. Sister Callista Roy, a member of the Sisters of Saint Joseph of Carondeler, was born on October 14, 1939, in Los Angeles, California. While working towards her master's degree, Roy was challenged in a seminar with Dorothy E. Johnson to develop a conceptual model for nursing. She began conceptualizing her model in 1968 when Mount Saint Mary's college adopted the adaptation framework as the philosophical foundation of the nursing curriculum.

In this present study, input includes the background variables of the study participants such as demographic variables, socio economic variables and clinical variables. The coping mechanism that is adapted in the present study is Alternate nostril breathing exercise. For the participants in the study group, Alternate nostril breathing exercise was provided for 15 days, along with routine care, whereas routine care was only provided to the control group.

The effectors in the present study are the old age hypertensive clients who are residing in selected old age homes; assessment of the biophysiological status was done before the intervention for both the experimental group and the control group. Alternative nostril breathing exercise consisted twice daily for 15 days.

Pretest blood pressure was measured for both experimental and the control groups on the 1st and 15th day using sphygmomanometer. Effective and ineffective changes were monitored during the output process. Reassessment was made based on the feedback on the ineffective change process.

Figure 2.1. FRAMEWORK BASED ON CALLISTA ROY'S ADAPTATION MODEL 1976



Chapter III

Research Methodology

CHAPTER III

METHODOLOGY

Research methodology is a systematic way to solve the research problems. Research methodology has many dimensions and research methods do constitute a part of the research methodology. The scope of research methodology is wider than the research methods. Thus, when we talk of research methods we also consider the logic behind the methods. So that the research results are capable of being evaluated either by researcher himself or by others.

Research methodology is a way to systematically form the research problems. It may be understood as a science of study how the research is done scientifically.

B. T. Basavanthappa (2005)

This chapter deals with the methodological approach adopted for the study. It includes description of research approach, research design, variables, setting of the study, population of the study, sample, and criteria for sample selection, sampling technique, sample size, development and description of tools, validity and reliability of the tools. Data collection procedure and statistical analysis.

RESEARCH APPROACH

A research approach guides the researcher in the nature of data to be collected and the method of analysis.

(Polit and Hunger 1999)

A quantitative evaluate research approach, because the aim of the investigator is to determine the effectiveness of Alternate nostril breathing in reducing blood pressure among hypertensive clients.

RESEARCH DESIGN

Research design is the overall plan for obtaining an answer to the research question for testing the research hypotheses.

(Polit and Hunger 1999).

The term research design refers to the plan of a scientific investigation. Research design helps the researcher in the selection of the subject, identification of variables, their manipulation, control, observation to be made and types of statistical analysis to interpret the data.

For this study a quasi experimental pre test, post test , control group design was chosen to evaluate the effectiveness of alternate nostril breathing among elderly clients with hypertension in selected Old Age Homes at Dindigul District.

The schematic presentation:

Group	Pre test	Intervention	Post Test
Experimental group	O_1	X_1	O_2
Control group	O_1	X_0	O_2

Key:-

O_1:- pre-test level of blood pressure on first day

X_1:- Intervention (Alternate nostril breathing twice daily).

X_0:- No intervention

O_2:- post-test level of blood pressure on fifteenth day.

RESEARCH VARIABLES

Variable is a value that can change, depending on conditions or on information passed to the programme.

(Margatet Rouse 2007)

INDEPENDENT VARIABLES

An independent variable is a variable believed to affect the dependent variable. In this study the independent variable is “Alternate nostril breathing”.

DEPENDENT VARIABLES

It is the variable a researcher is interested in.

In this study the dependent variable is “Blood pressure”.

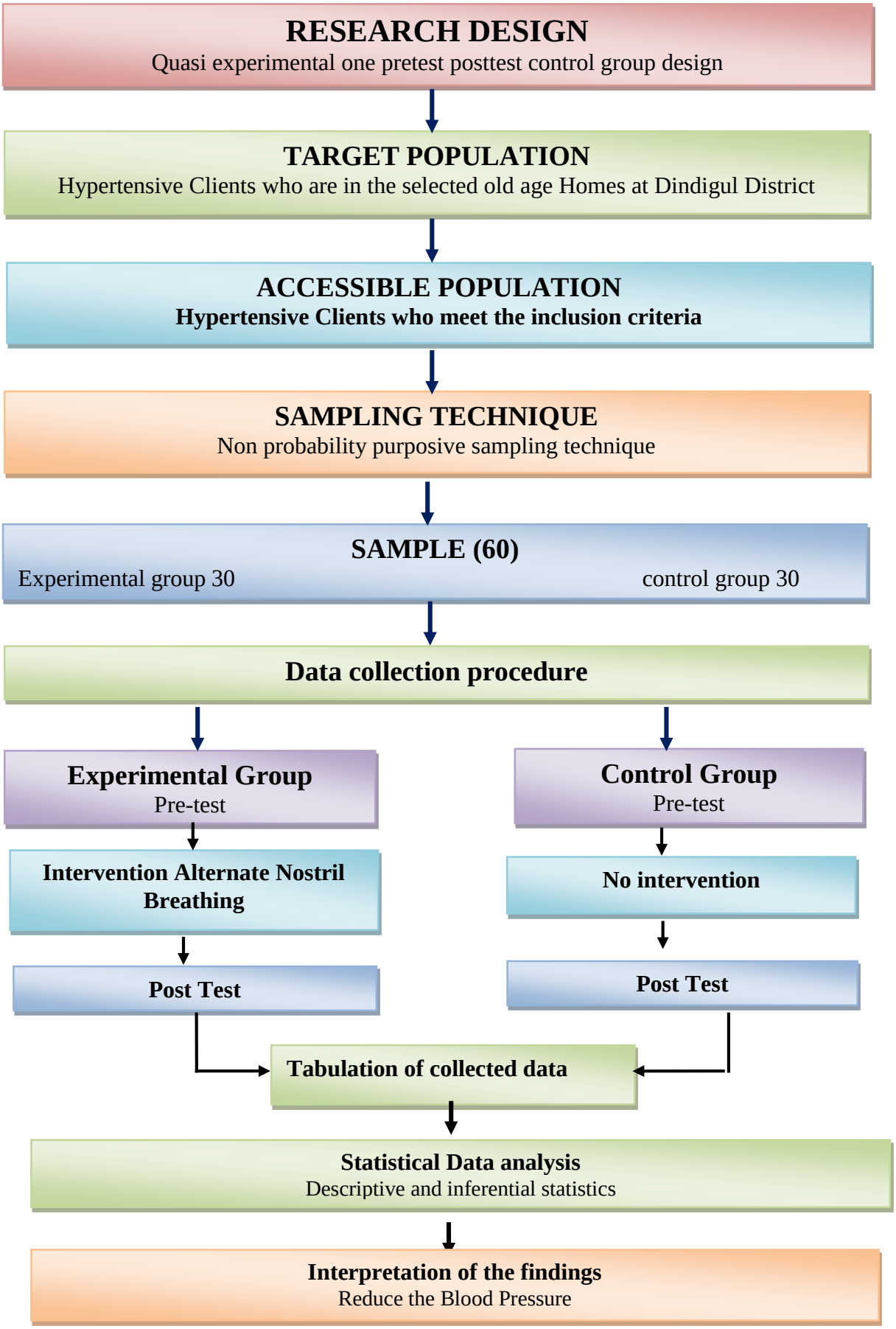
EXTRANEOUS VARIABLES

Extraneous Variables are the factors that are not the part of the study but may affect the measurement of the study variables: age, education, and number of child.

DEMOGRAPHIC VARIABLES

Demographic Variables include age, gender, religion, educational status, occupation, marital status, number of children, duration of stay, history of previous medication, duration of illness, type of treatment, mode of treatment and bad habits.

Figure 3.1. Schematic representation of Research Methodology



SETTINGS OF THE STUDY

According to Polit and Hungler (2004) research settings are specific places in a research where data collection is to be made. The selection of setting was done on the basis of feasibility of conducting the study, availability of subjects, and permission of authorities.

For this study the setting was selected old age homes at Dindigul District.

POPULATION OF THE STUDY

Population is the entire set of individual who meet the sampling criteria

(Nancy Burns 2007).

The **target population** refers to the population that the researcher aims to make generalization.

In this study the target population comprises of all the Hypertensive clients whose blood pressure is more than 150/90 mmHg.

The **accessible population** refers to the aggregate of cases which conform to design and meet the inclusive criteria and which was accessible to the researcher as the pool of subjects or objects.

In this research, the accessible population was selected hypertensive clients both male and female between 60 to 75years in selected old age homes at Dindigul District.

SAMPLE

According to Polit and Hungler (2005), the sample consists of a subset of population selected to participate in a research study. In this study the samples were hypertensive clients who fulfilled the inclusion criteria from the selected old age homes at Dindigul District.

SAMPLE SIZE

The selected sample size:

Total sample size is	60
Samples in experimental group	30
Samples in control group	30

SAMPLING TECHNIQUE

Sampling is the process of selecting a representative part of population to represent the entire population.

Polit and Hungler (2008)

The sampling technique adapted for this study is non probability purposive sampling technique".

CRITERIA FOR SAMPLE COLLECTION

Inclusion Criteria

- Clients in the age group of 60 to 75 years.
- Both Male and female subjects
- Clients who are having hypertension above 150/90 mm Hg.
- Who are willing to participate in this study.
- Clients who are able to understand Tamil and English and follow the instruction

Exclusion criteria

Hypertensive who are:

- Clients with altered consciousness
- Bedridden clients
- Clients with hemiplegia and paraplegia

DESCRIPTION OF THE TOOLS

The instrument consists of, Demographic Data: namely Age, Gender, Educational status, Occupation, Number of children and Duration of stay in the old age home, Duration of illness, Duration of treatment, Type of treatment and Mode of treatment.

Sphygmomanometer: is an apparatus measure blood pressure. It was used by the researcher to measure blood pressure from patient's upper extremities.

VALIDITY OF THE TOOL

Validity is the degree to which an instrument measures what it is intended to measure.

Polit and Hungler (2008)

The validity of tool obtained from the 5 experts in the field of nursing and medicine. The suggestions and advices given by the experts were considered and duly corrected.

RELIABILITY OF THE TOOL

Reliability is the degree of consistency or dependability with which instrument measures the attribute is designed to measure.

Polit and Hungler(2008)

The reliability of the alternate nostril breathing was assessed by using test retest method.

PILOT STUDY

The pilot study is a small preliminary investigation of the same general charactor as the major study. It is designed to acquire the researcher with the problems to be corrected in preparation for the large research project and try out the problems for

collecting the data. Pilot study was conducted to ensure validity and reliability of the tool and feasibility for giving intervention.

The pilot study was conducted in Infant Jesus old age home at Nilakottai, Dindigul District, after obtaining formal permission from the authorities through principal. The investigator introduced oneself to the clients and established good rapport with the persons of the study.

The study was conducted for a period of one week with 6 old age (60-75years) hyper tensive clients (above 150/90 mm of Hg). 6 samples were taken by using purposive sampling method. 3 were in experimental group and 3 were in control group who fulfilled the selection criteria other than the main study sample area.

During the time alternate nostril breathing was given to the selected clients. The finding of the pilot study revealed the effectiveness of alternate nostril breathing among the hypertensive clients in the experimental group scored higher than the hypertensive clients in the control group. The study setting was other than the main study settings.

DATA COLLECTION PROCEDURE

The main study was conducted at selected old age homes at Dindigul District. About 60 hypertensive clients, who met within inclusion criteria, were selected by using a purposive sampling technique. 30 subjects were assigned in experimental group and 30 in control group. Informed consent was obtained from each participant and the benefits of alternate nostril breathing were explained. The investigator established good rapport with the persons of the study to ensure their cooperation and collected the data regarding demographic variables. Pre and post test assessment of blood pressure level was assessed in the same mid morning, in upright sitting position; The alternate nostril breathing was given to the experimental group twice daily 15-20 mints for 15 days. The post test was conducted in experimental group on the 15th day after alternate

nostril breathing exercise. For control group only the blood pressure level was checked on the first and the fifteenth day.

STATISTICAL ANALYSIS

Collected data were analyzed by descriptive and inferential statistics. The data related to demographic variable were analyzed by using descriptive measures (frequency, percentage distribution). Inferential statistics of t-test was used to evaluate the effectiveness on blood pressure among hypertensive clients. Chi-square test was done to associate the level of blood pressure among hypertensive clients and their selected demographic variables.

PROTECTION OF HUMAN RIGHTS

The ethical clearance was obtained from the Institutional Human Ethical Committee and written consent was obtained from the authorities of all three old age homes. The investigator explained objectives purpose and goal of present study to the authorities of the aged homes and to the participants in order to get their maximum cooperation. An informed consent was obtained from the respondents of the study (hypertensive clients) before administering the interview schedule.

Chapter IV

Data analysis and interpretation

CHAPTER IV

DATA ANALYIS AND INTERPRETATION

This chapter deals with the description of the sample analysis and interpretation of the data collection to assess the effectiveness of alternate nostril breathing in the control of blood pressure among hypertensive clients.

The purpose of analysis was to reduce the collected data for intelligible and interpretable form, so that the relation of the research problem can be studied and tested.

According to Denis Polit (2007), analysis is the method of organizing and scrutinizing data in such a way that research question can be answered.

The data collected from 60 samples 30 experimental group and 30 in control group of Hypertensive old age clients. Collected data were analyzed, tabulated and interpreted to understand the impact of alternate nostril breathing exercise on the level of reducing blood pressure.

The following scale represents the general blood pressure according to the WHO world health organization

CLASSIFICATION	SYSTOLIC BLOOD PRESSURE (SBP)		DIASTOLIC BLOOD PRESSURE (DBP)
LOW**	<90	or	<60
NORMAL	<120	and	<80
PREHYPERTENSION	120 – 139	or	80 – 89
HIGH: STAGE 1 HYPERTENSION	140 – 159	or	90 – 99
HIGH: STAGE 2 HYPERTENSION	≥160	or	≥100

** In general, having lower than normal (120/80) blood pressure is a good thing, but you should consult your doctor or caregiver if you feel your blood pressure is too low and/or you are experiencing symptoms of hypertension.

Organization of the data:

The study findings of the samples are presented in the following sections.

Section A **:** Data on demographic variables of hypertensive clients in Experimental and Control Group

Section B **:** Data on Identify the effectiveness of Alternate nostril breathing among hypertensive client in Experimental and control group.

Section C **:** Data on Association between the pretest posttest level of blood pressure among hypertensive clients in control group.

Section D **:** Data on Association between the pretest posttest level of blood pressure With their demographic variables of hypertensive clients in experimental group.

SECTION A

Data on demographic variables of hypertensive clients in control and experimental group.

Table: 1: Frequency and percentage distribution of hypertensive clients in their selected demographic variables in the control and experimental group.

N=30+30

Demographic variables	Control group (n=30)		Experimental group (n=30)	
	F	%	F	%
1. Age (in years):				
60-65 years	14	46.7	8	26.7
65-70 years	12	40	12	40
70-75 years	4	13.3	10	33.3
2. Gender :				
Male	13	43.3	14	46.7
Female	17	56.7	16	53.3
3. Rseligion :				
Hindu	16	53.3	16	53.3
Christian	12	40	9	30
Muslim	2	6.7	5	16.7
4. Marital status :				
Single	12	40	9	30.0
Married	14	46.7	16	53.3
Widow	4	13.3	5	16.7
5. Educational status :				
Primary	5	16.7	3	10
Secondary	12	40.0	11	36.7
Graduate	13	43.3	16	53.3
6. Occupation :				
Sedentary worker	8	26.7	8	26.7
Moderate worker	22	73.3	22	73.3
Heavy worker	0	0	0	0

7. Number of children :				
One	2	6.7	1	3.3
Two	12	40	10	33.3
Three and above	13	43.3	14	46.7
None	3	10	5	16.7
8. Duration of stay:				
Less than 1 year	5	16.7	4	13.3
1-2 years	9	30	9	30
More than 3 years	16	53.3	17	56.7
9. History of previous medication :				
<1 year	5	16.7	8	26.7
1-2 years	12	40	10	33.3
More than 3 years	13	43.3	12	40
10. Duration of illness :				
<3 years	9	30	7	23.3
3-6 years	11	36.7	8	26.7
>6 years	10	33.3	15	50
11. Type of treatment :	.			
Yes	18	60	17	56.7
No	12	40	13	43.3
12. Mode of treatment :				
Regular	8	26.7	8	26.7
Irregular	12	40	12	40
Not taken	10	33.3	10	33.3
13. Bad habits:				
Smoking	6	20.0	6	20.0
Alcohol	0	0	0	0
Tobacco chewing	5	16.7	5	16.7
None	19	63.3	19	63.3

EXPERIMENTAL GROUP

Table 1 reveals that, on age majority 12 (40%) were 65 ± 70 years, and least 8 (26.7%) were between 60 ± 65 years in experimental group

Based on gender, majority 16(53.3%) were females and 14(46.7%) were male in experimental group.

Based on religion, majority 16(53.3%) were belongs to Hindu, 5(16..7%) were Muslim in experimental group.

According to marital status, majority 16(53.3%) was married and least 5(16.7%) were widow in experimental group.

Regarding the education, majority 16(53.3%) were graduate and least 3(10%) were primary qualified in experimental group.

Among the participants, regarding occupation. The higher proportion of 22(73.3%) were in Moderate and no Heavy worker in the experimental group.

Regarding to the Number of children, majority 14(46.7%) had three and above children and least 1(3.3%) had one child in experimental group.

Regarding duration of stay majority 17(56.7%) More than 3 years stay in the old age home and least 4(13.3%) were in Less than 1 year in the old age home belongs to experimental group .

According to the History of previous medication majority 12(40) More than 3 years and 8(26.7%) less than one year in the experimental group.

Regarding to the Duration of illness majority 15 (50%) were greater than 6 years and least 7 (23.3%) were less than 3 years in experimental group.

Among the study participants the Type of treatment majority 17(56.7%) were treatment taken and 13(43.3%) were not taken treatment in the experimental group.

Among the study participants the Mode of treatment majority was 12(40%) irregular and least 8(26.7%) regular in the experimental group.

Among the study participants the Bad habits majority 19(63.3%) none and least 0% Alcohol in the experimental group.

CONTROL GROUP

Table 1 reveals that, on age majority 14 (46.7%) were 60 ± 65 years and least 4(13.3%) were between 70 ± 75 years in control group

Based on gender majority 17(56.7%) were females and least 13(43.3%) were male in control group.

Based on religion majority of subjects 16(53.3%) were belongs to Hindu and only 2(6.7%) were Muslim in experimental group.

According to marital status, the subjects of 14(46.7%) was married and least 4(13.3%) were widow in control group.

Regarding the education, majority 13(43.3%) were graduate and least 5(16.7%) was primary qualification in control group.

Regarding occupation the higher proportion of 22(73.3%) were in Moderate and no Heavy worker in the control group.

Regarding to the Number of children, majority 13(43.3%) had three and above children and least 2(6.7%) had the one child in control group.

Study participants, regarding duration of stay majority 16(53.3%) More than 3 years stay in the old age home and least 5(16.7%) were in Less than 1 year in the old age home belongs to control group .

According to the History of previous medication majority 13(43.3%) More than 3 years and least 5(16.7%) less than one year in the control group.

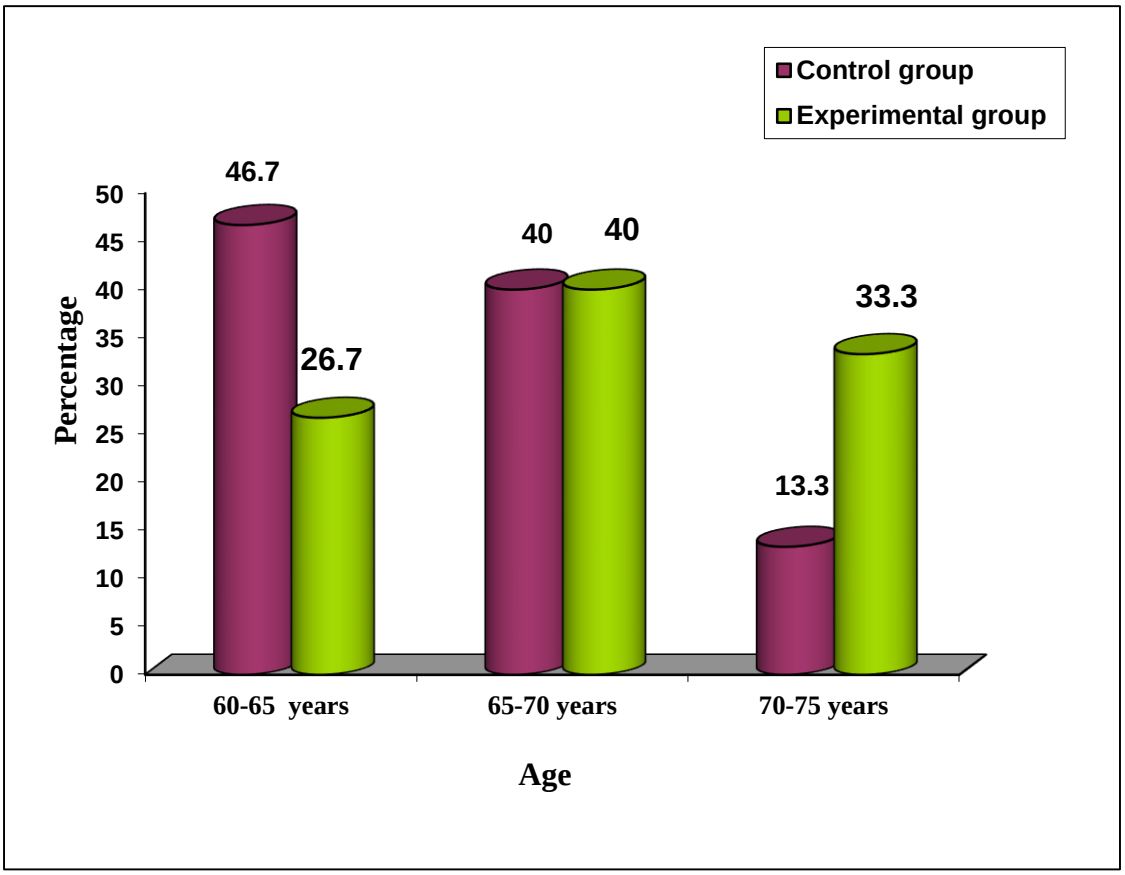
Regarding to the Duration of illness majority 11 (36.7%) were 3-6 years and least 9(30%) were less than 3 years in control group.

Among the study participants the Type of treatment majority 18(60%) were treatment taken and 12(40%) no were not taken in the control group.

Among the study participants the Mode of treatment majority was 12(40%) irregular and least 8(26.7%) regular treatment in the control group.

Among the study participants the Bad habits majority 19(63.3%) none and least 0% Alcohol in the control group.

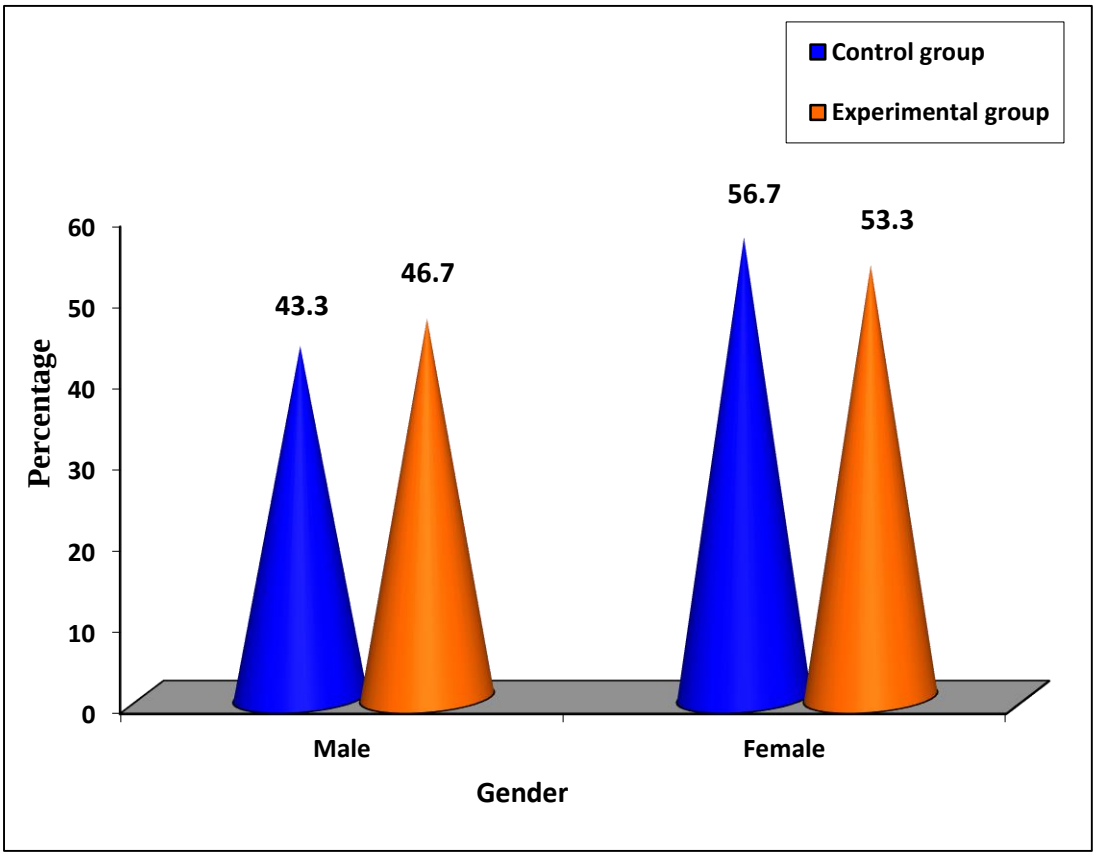
Fig. 1.1: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their age.



Among experimental group regarding age majority 12(40%) belong to the age group 65-70 years, and the least 8(26.7%) belongs to age group of 60-65 years

Among control group regarding age majority 14(46.7%) belong to the age group 60-65 years, and the least 4(13.3%) belongs to age group of 70-75 years.

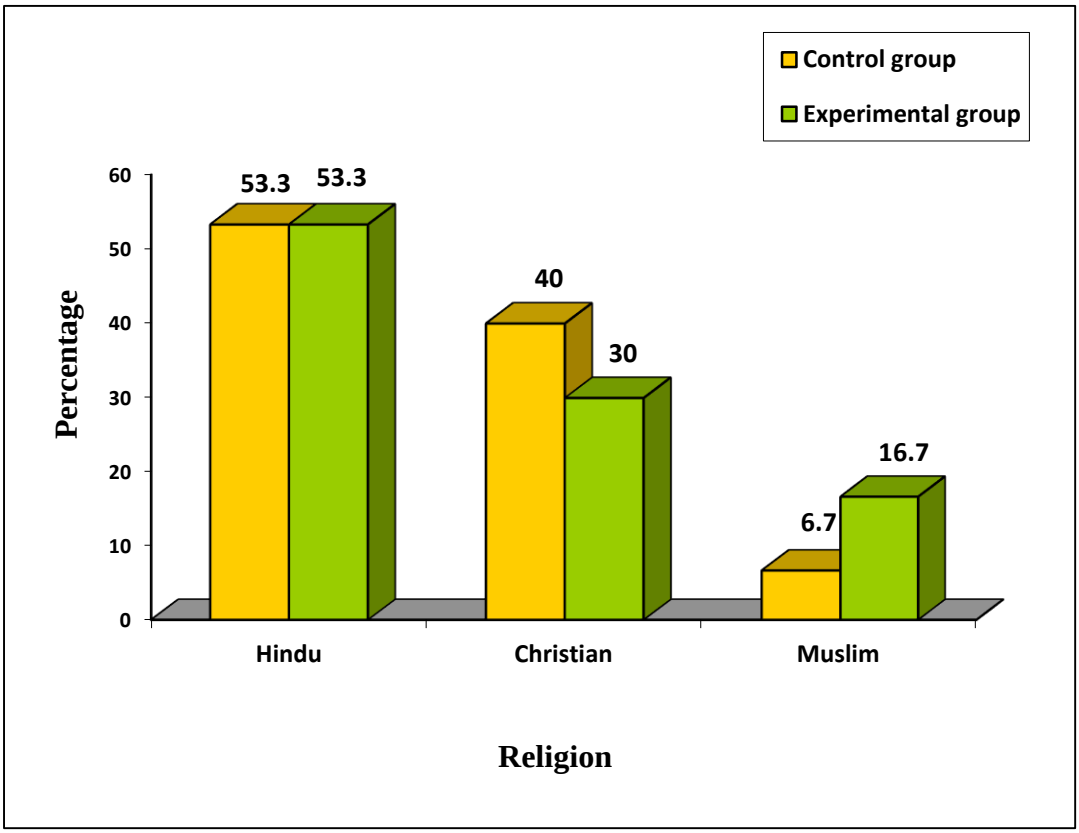
Fig.1.2: Multiple Pyramid Diagram showing percentage distribution of blood pressure among hypertensive clients according to their gender.



Based on gender, majority of subjects 16(53.3%) were females and the least 14(46.7%) were male in experimental group.

Based on gender majority of the subjects 17(56.7%) were females and the least 13(43.3%) were male in control group.

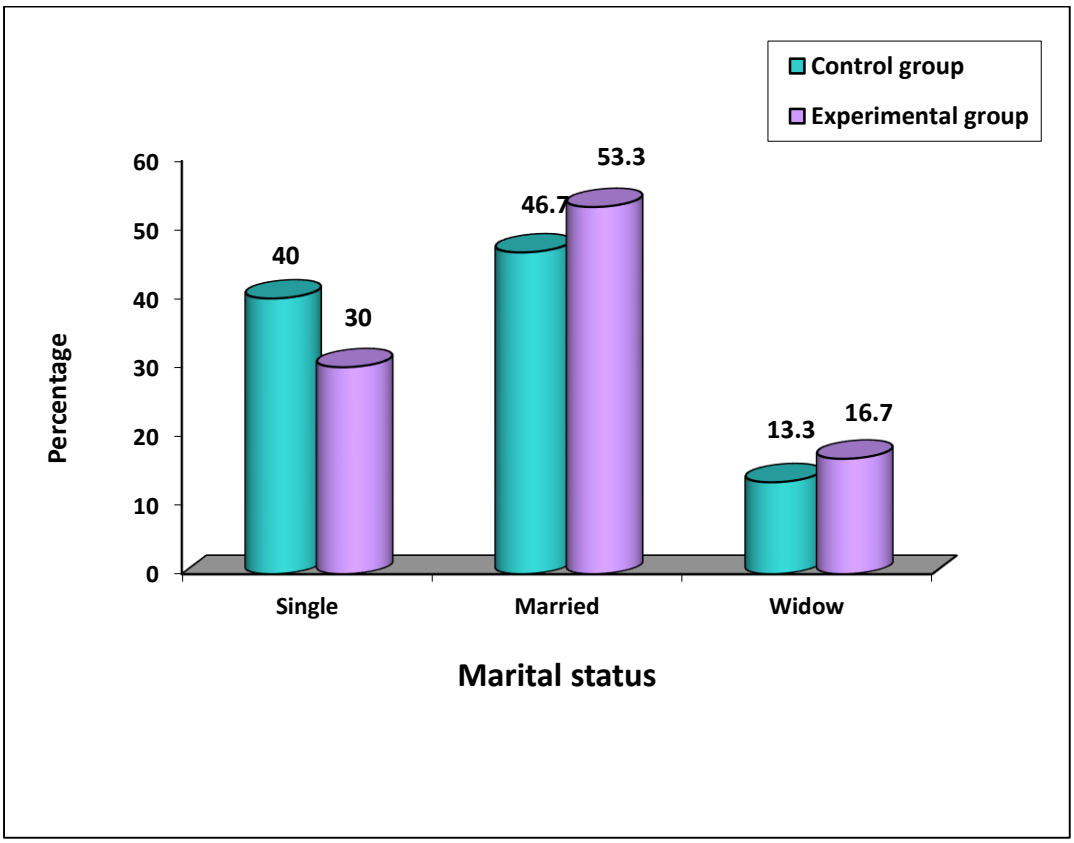
Fig. 1.3: Multiple Bar Diagram showing percentage distribution of blood pressure among hypertensive clients according to their religion



Based on religion, majority of subjects 16(53.3%) were belongs to Hindu and the least 5(16.7%) of them were Muslim in experimental group.

Based on religion 16(53.3%) were belongs to Hindu and the least 2(6.7%) belonged to Muslim in control group.

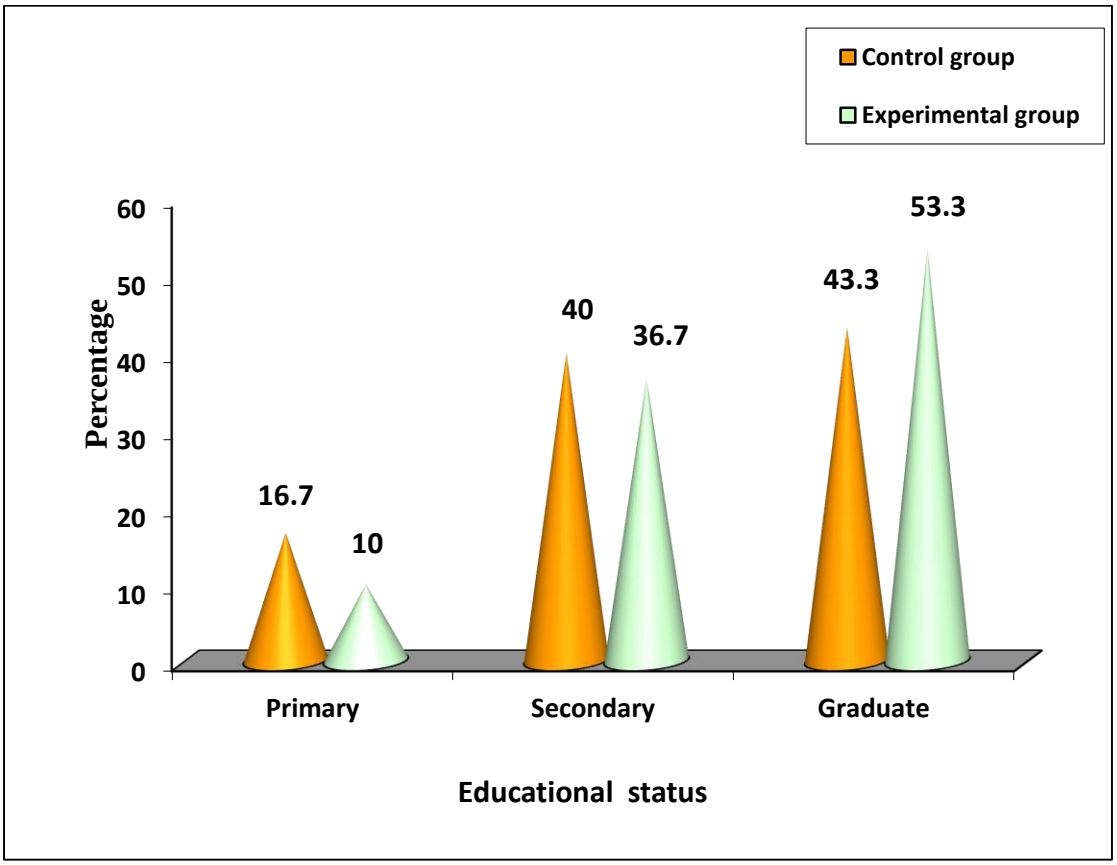
Fig.1.4: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their Marital status



According to marital status the majority 16(53.3%) of the subjects were married, and the least 5(16.7%) were widow in experimental group.

According to marital status the majority 14(46.7%) were married and least 4(13.3%) were widow in control group.

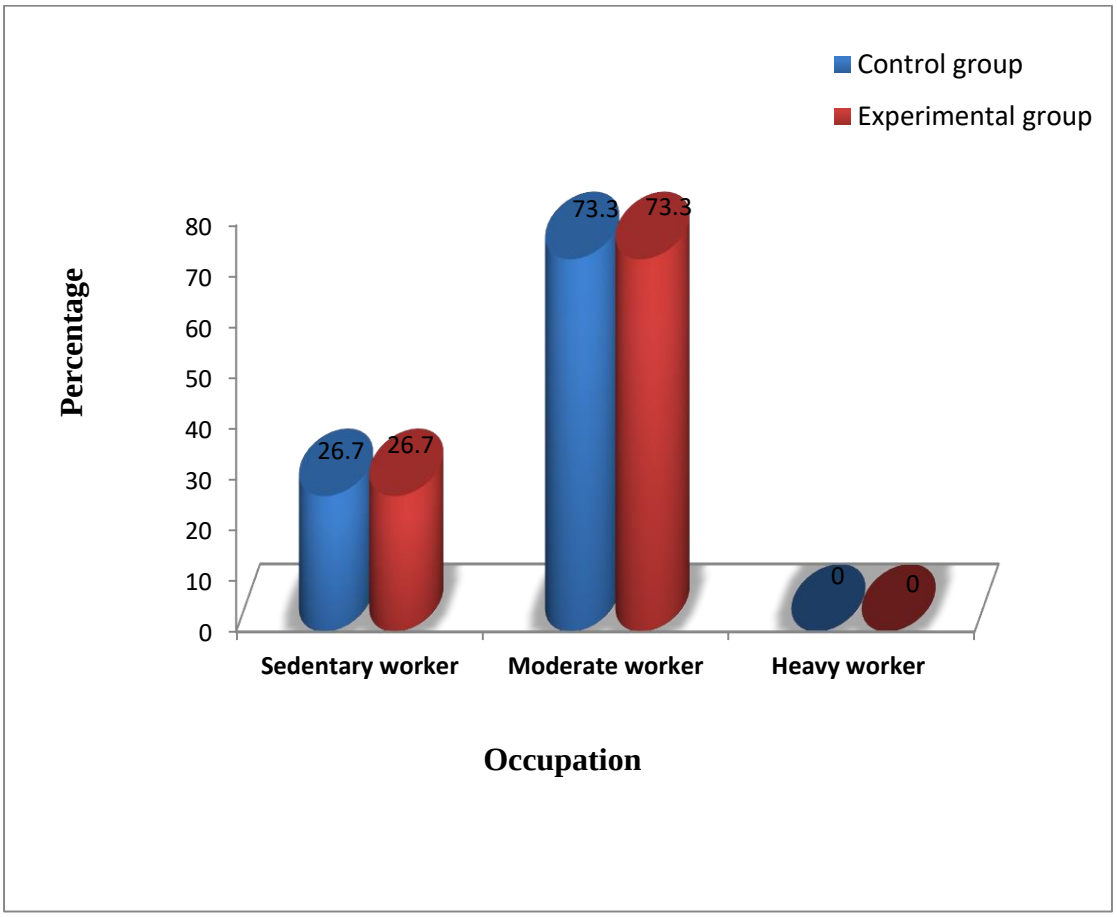
Fig.1.5: Multiple Pyramid Diagram showing percentage distribution of blood pressure among hypertensive clients according to their Educational status



Regarding the education, majority 16(53.3%) belonged to graduate qualified and least 3(10%) belongs to primary education in experimental group.

Regarding the education majority 13(43.3%) of the subjects graduate and least 5(16.7%) primary educated in control group

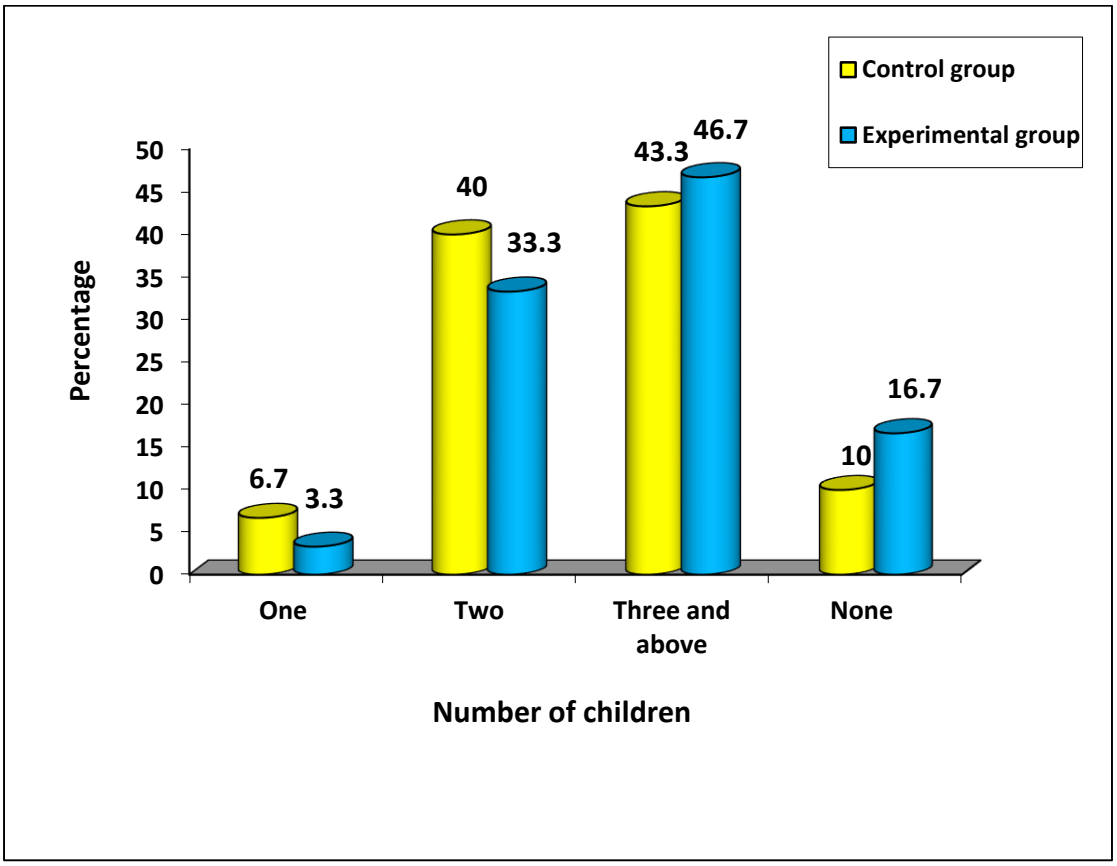
Fig.1.6. Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their Occupation



Among the study participants, regarding occupation the higher proportion of 22(73.3%) were in moderate and no heavy worker in the experimental group.

Among the study participants, regarding occupation the higher proportion of 22(73.3%) were in moderate and no heavy worker in control group.

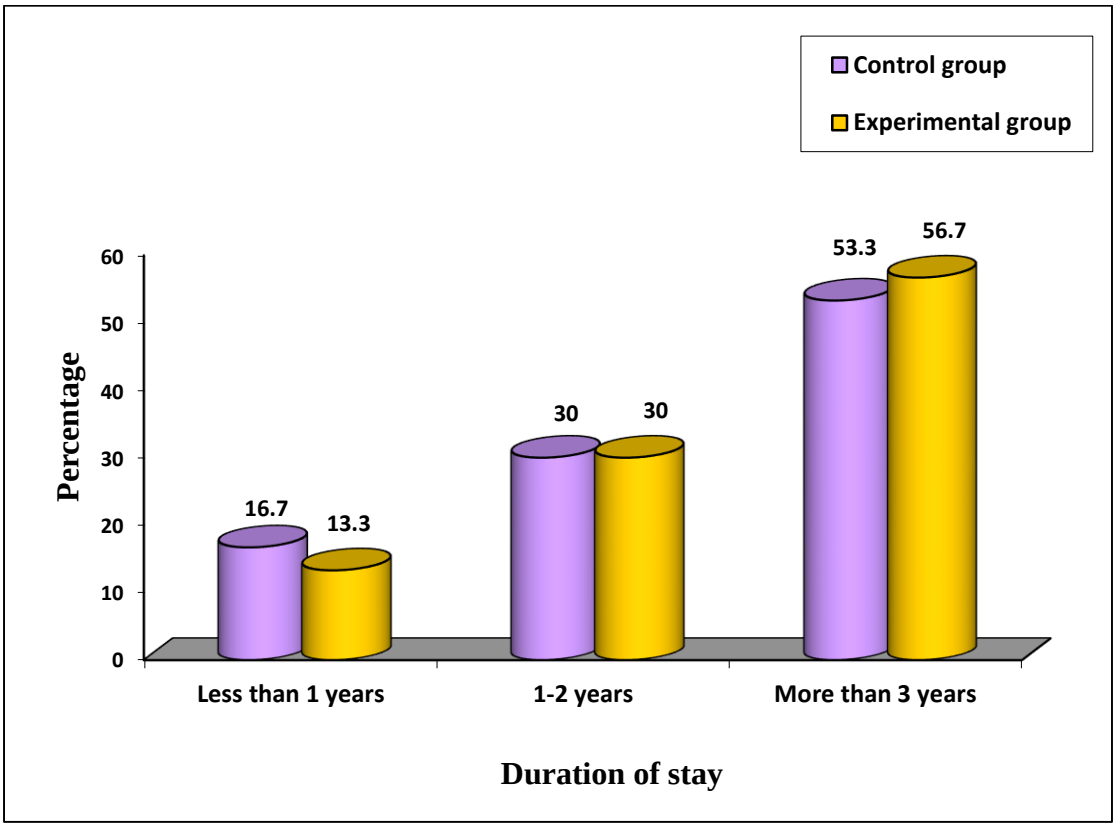
Fig.1.7: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their number of children



Regarding to the Number of children, majority 14(46.7%) have three and least 1(3.3%) have the one child in experimental group.

Regarding to the Number of children, majority 13(43.3%) have three and above children and least 2(6.7%) have the one child in control group.

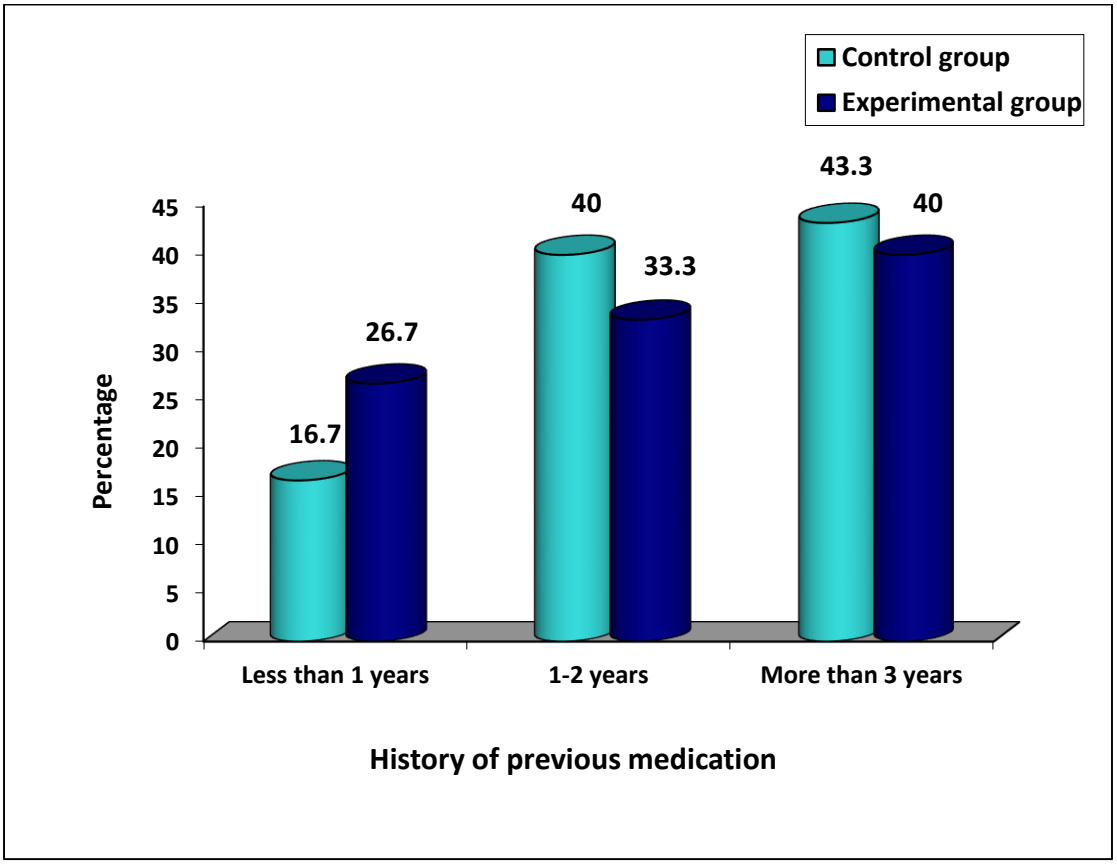
Fig.1.8: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their Duration of stay



Among the study participants, regarding duration of stay majority 17(56.7%) more than 3 years and least 4(13.3%) were in Less than 1 year in the old age home belongs to experimental group .

Among the study participants, regarding duration of stay majority 16(53.3%) more than 3 years and least 5(16.7%) were in and Less than 1 year in the old age home in control group.

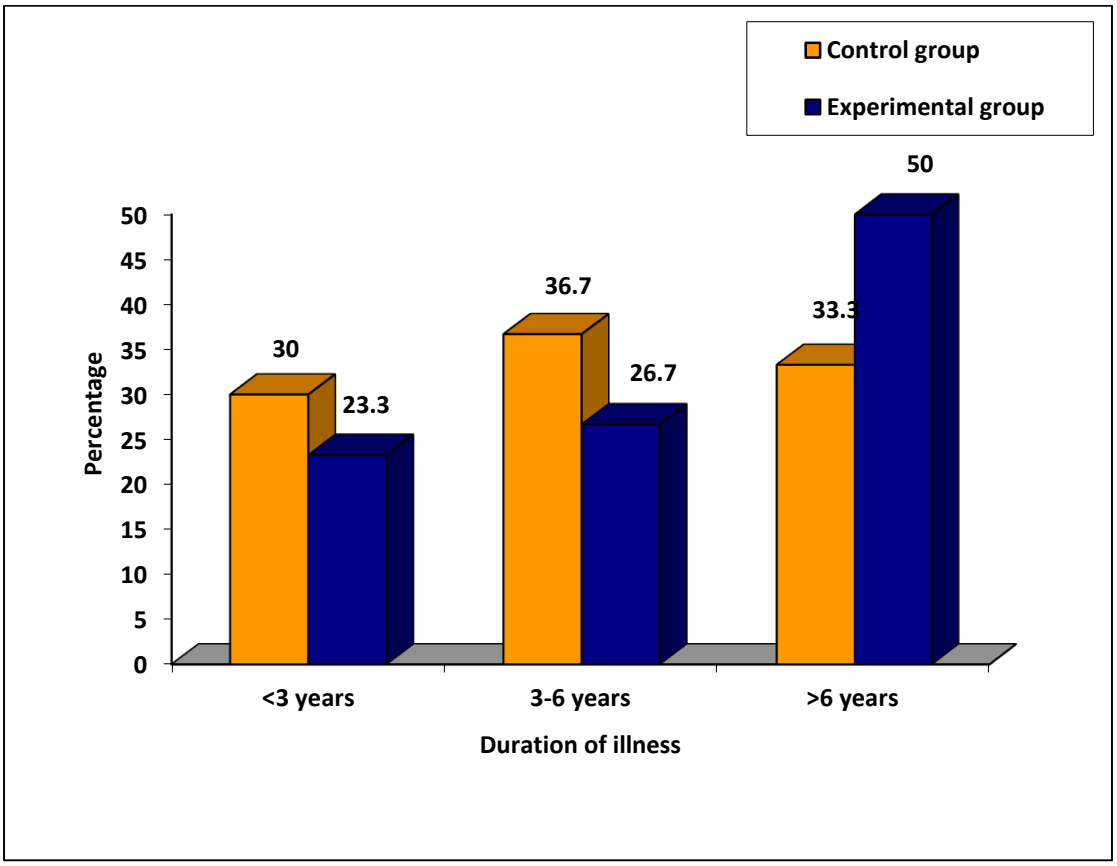
Fig.1.9: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their history of previous medication



According to the History of previous medication majority 13(43.3%) more than 3 years and least 5(16.7%) were took the medication less than 1 year in control group.

According to the History of previous medication majority 12(40%) More than 3 years and least 8(26.7%) were took the medication <1 year in the experimental group.

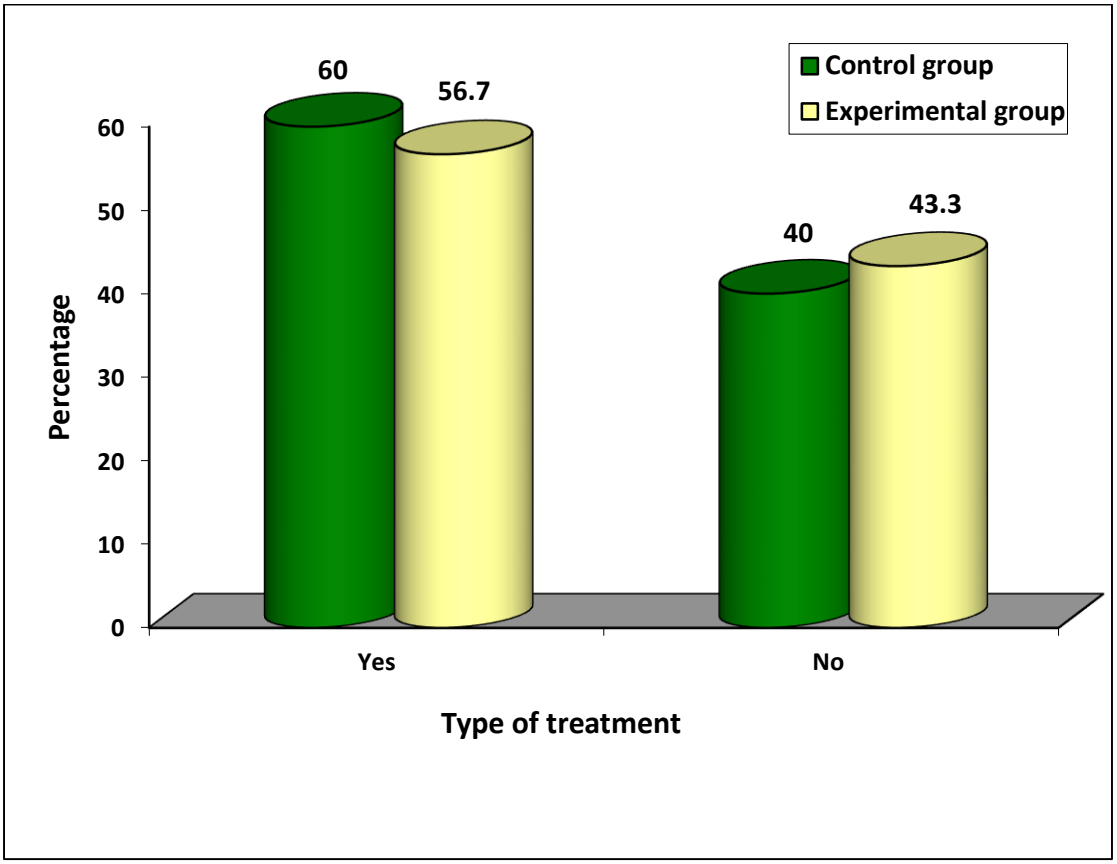
Fig.1.10: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their Duration of illness



Regarding the Duration of illness majority 15(50%) were greater than 6 years and least 7(23.3%) were less than 3 years in experimental group.

Regarding Duration of illness majority 11(36.7%) of participants 3-6 years and least 9(30%) of them are less than 3 years in the control group

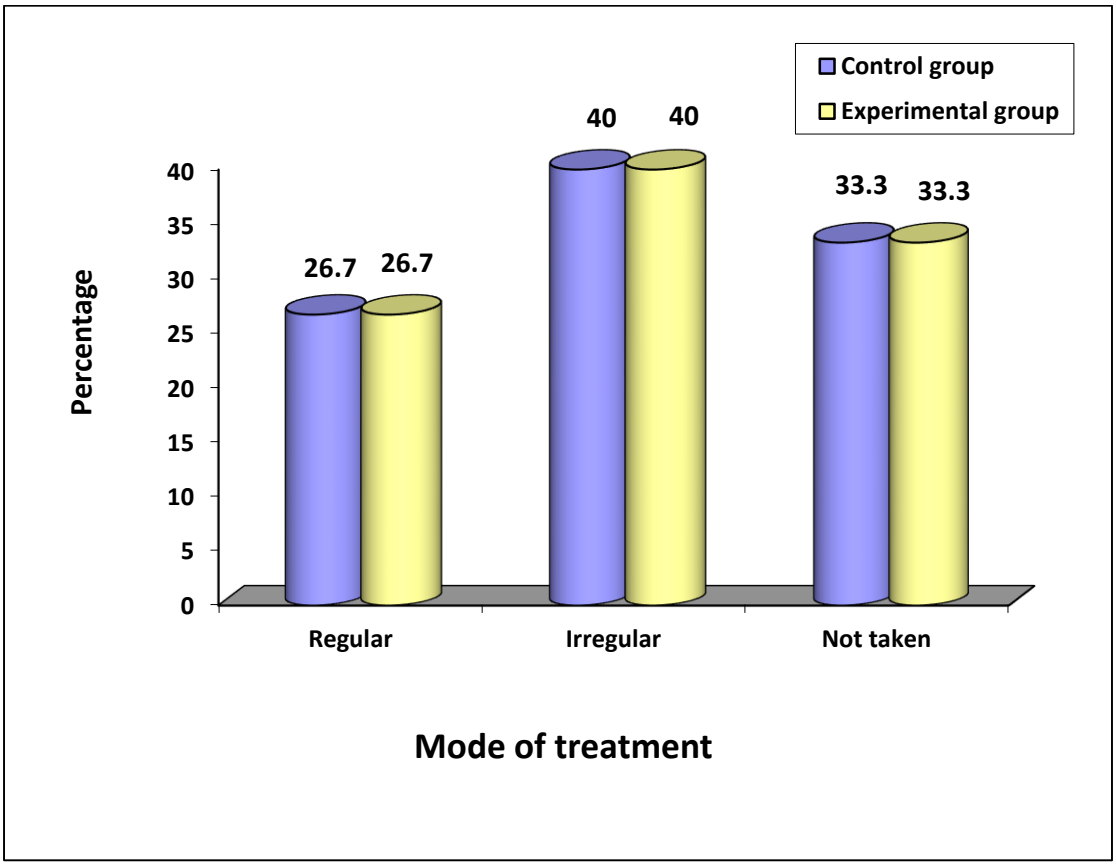
Fig.1.11: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their type of treatment



Among the study participants the Type of treatment majority 17(56.7%) were treatment taken and least 13(43.3%) were not taken in the experimental group.

Among the study participants the Type of treatment majority 18(60%) were treatment taken and least 12(40%) were not taken the treatment in the control group.

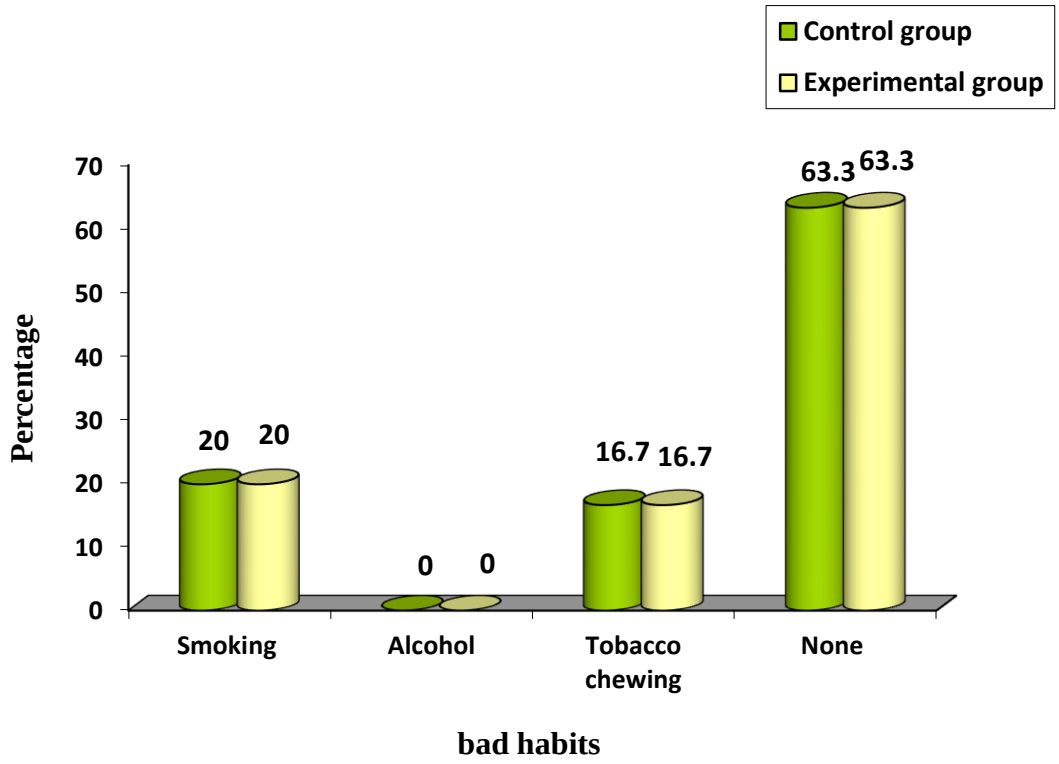
Fig.1.12: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their mode of treatment



Among the study participants Mode of treatment majority 12(40%) irregular and least 8(26.7%) regular in the experimental group

Among the study participants the Mode of treatment majority 12(40%) irregular and least 8(26.7%) not taken in the control group

Fig.1.13: Multiple Cylinder Diagram showing percentage distribution of blood pressure among hypertensive clients according to their bad habits



Among the study participants in Bad habits majority 19 (63.3%) belonged to no bad habits and least nil Alcohol both in the experimental group and control group

OBJECTIVE I: To assess the pretest and post test level of blood pressure among the hypertensive clients control and experimental group.

Table-2: Frequency and Percentage distribution of Alternate Nostril Breathing on level of Blood pressure among Hypertensive Clients in Selected Old Age Homes in Experimental group

N = 30

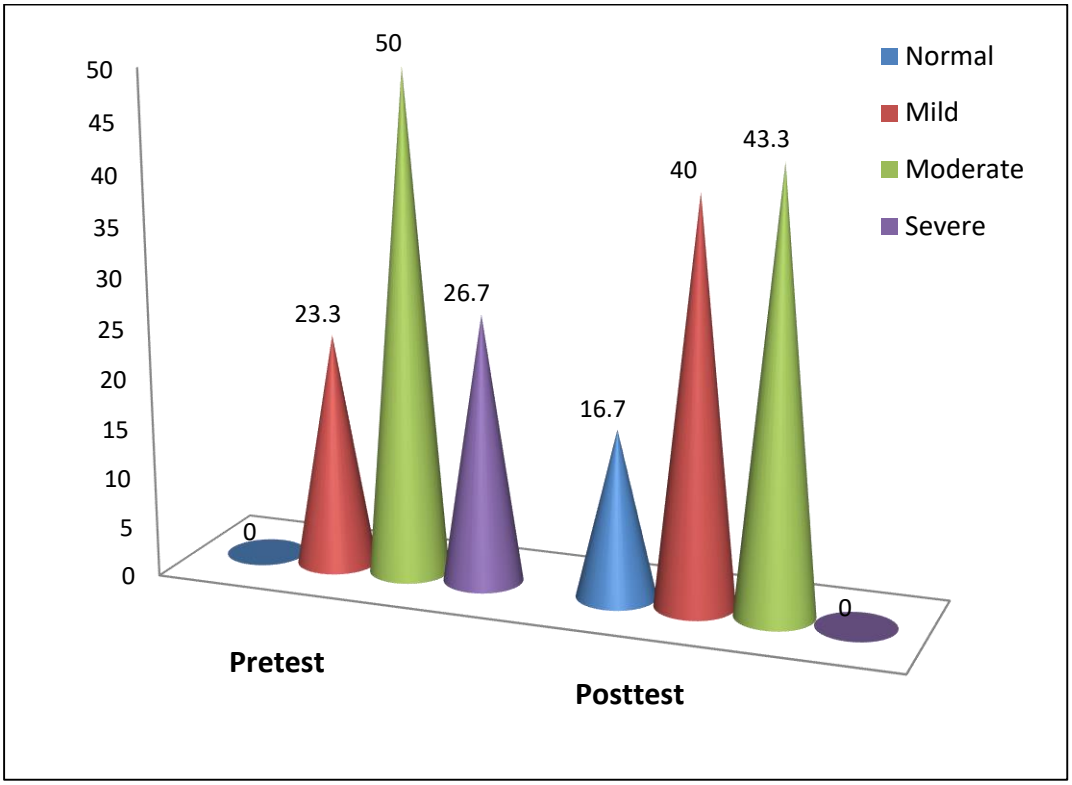
Level of blood pressure	Experimental group			
	Pre test		Post test	
	f	%	f	%
Normal	-	-	5	16.7
Mild	7	23.3	12	40
Moderate	15	50	13	43.3
Severe	8	26.7	0	0
Total	30	100	30	100

In experimental group the blood pressure among old age 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest.

The post experimental group revealed the blood pressure among old age, in which showed 4(13.3%) had normal hypertension, 13(43.3%) had mild hypertension and moderate hypertension and nil severe hypertension in the posttest.

This finding reveals that in experimental group after the alternative nostril breathing exercise the level of blood pressure among the hypertensive clients were reduced in post test than the pretest but in control group there is no change in blood pressure level among the hypertensive clients.

Fig. 2.1. Multiple Pyramid Diagram showing frequency and percentage distribution of Blood pressure among hypertension clients in experimental group



In experimental group the Blood pressure among hypertensive clients 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest.

The post experimental group revealed the Blood pressure among old age, in which showed 4(13.3%) had normal hypertension, 13(43.3%) had mild hypertension and moderate hypertension and nil severe hypertension in the posttest.

Table-3: Frequency and Percentage distribution of Blood pressure among Hypertensive Clients in Control group

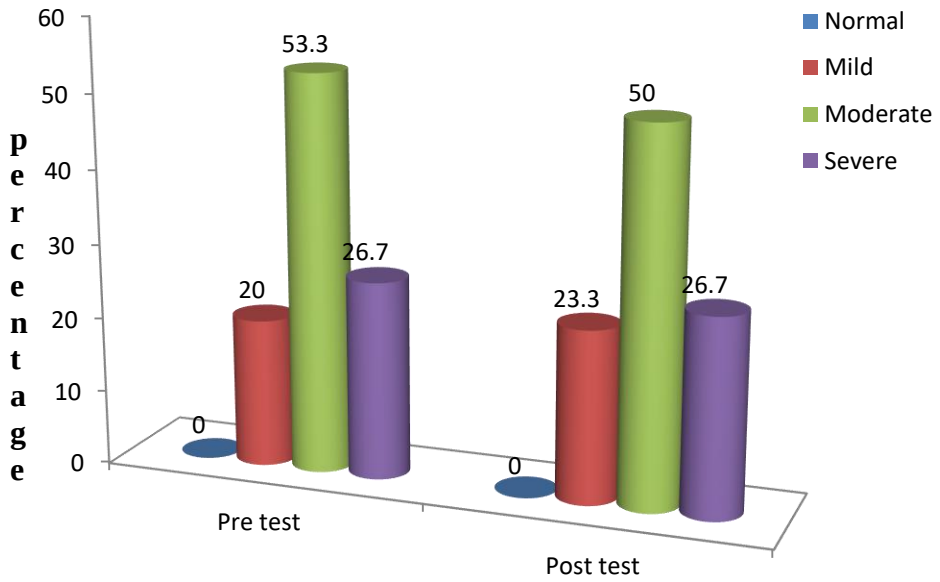
N=30

Level of blood pressure	Control group			
	Pre test		Post test	
	f	%	f	%
Normal	-	-	-	-
Mild	6	20	7	23.3
Moderate	16	53.3	15	50
Severe	8	26.7	8	26.7
Total	30	100	30	100

The above table showed the blood pressure among old age in the control group, which showed 6(20%) had mild hypertension, 16(53.3%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest.

In the post test control group revealed the blood pressure among old age, which showed 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension.

Fig.2.2: Multiple Cylinder Diagram showing the Frequency and Percentage distribution of Blood pressure among Hypertensive Clients in Control group



Control Group

The above diagram showed the blood pressure among old age in the control group, which showed 6(20%) had mild hypertension, 16(53.3%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest.

In the post test control group revealed the blood pressure among old age, which showed 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension.

SECTION B

OBJECTIVE II: To assess the effectiveness of alternate nostril breathing among hypertensive clients of experimental and control group

Table -4: Paired "t"-test was found to assess the Effectiveness of Alternate Nostril Breathing on Blood pressure among Hypertensive Clients in experimental group

LEVEL OF BLOOD PRESSURE	Experimental pretest		Experimental posttest		't'-value	P- value
	Mean	SD	Mean	SD		
SYS	148.6	12.1	136.9	11.1	6.24	P<0.001**
DIA	96	7.39	82.13	9.2	7.42	P<0.001***

*-P<0.05 , significant and **-P<0.01 &***-P<0.001 , Highly significant

Table 4. Revealed that the mean post score in the experimental group systolic pressure was 148.6 and SD was 12.1 and the diastolic blood pressure in the experimental group mean score was 96 and the SD score was 7.39. The calculated 't' value was 6.24 which was significant at p<0.001 level.

The mean post test score in the experimental group was 136.9 and SD was 11.1 and for systolic blood pressure. The mean post test score in the experimental group was 82.13 and SD 9.2 was and for diastolic blood pressure. The calculated 't' value was 7.42 which was significant at p<0.001 level. There is a significant association between the levels of blood pressure reading among the experimental group with demographic variables of hypertensive clients.

Table - 5 : Paired "t"-test to assess the Effectiveness of Alternate Nostril Breathing on Blood pressure among Hypertensive clients in control group

LEVEL OF BLOOD PRESSURE	Control pretest		Control posttest		't'-value	P- value
	Mean	SD	Mean	SD		
Systolic	148.7	12.0	148.9	12.3	**0.795**	**0.423**
Diastolic	96.03	7.69	96	7.42	**0.01**	**0.997**

*-P<0.05, significant and **-P<0.01 &***-P<0.001, highly significant

Table. 5. Revealed the paired 't' - test was found in control pre test systolic mean value was 148.7 and the SD value 12.0. Paired't' - test was found for the control post test systolic mean value was 148.9 and the SD value 12.3. Paired 't' - test was found for the control post test diastolic mean value was 96.03 and the SD value 7.69 't' test was found for the control post test diastolic mean value was 96 and the SD value 7.42. The calculated t value 0.795 for systolic blood pressure and the significant p value is less than 0.432 (<0.01) and The calculated t value 0.01 for diastolic blood pressure and the significant p value is less than 0.997. There is no significant between the systolic and diastolic blood pressure.

SECTION C

OBJECTIVE III: Data on Association between the posttest blood pressure level among hypertensive clients in control and experimental group.

Table - 6: Frequency percentage distribution of chi square experimental group

(N=30)

S. No	Demographic variables	Normal		Mild		Moderate		χ^2 (df)	p-value (N/NS)
		F	%	F	%	f	%		
1	**Age (in years)**								
	60-65 years	2	6.7	2	6.7	4	13.3	5.75	0.219
	65-70 years	0	0	8	26.7	4	13.3	(df=4)	NS
	70-75 years	2	6.7	3	10	5	16.7		
2	**Gender**								
	Male	2	6.7	5	16.7	7	23.3	0.64	0.727
	Female	2	6.7	8	26.7	6	20	(df=2)	NS
3	**Religion**								
	Hindu	3	10	5	16.7	8	26.7	5.19	0.267
	Christian	0	0	7	23.3	3	10	(df=4)	NS
	Muslim	0	0	1	3.3	2	6.7		
5	**Marital status**								
	Single	0	0	6	20	4	13.3	5.65	0.227
	Married	4	13.3	6	20	6	20	(df=4)	NS
	Widow	0	0	1	3.3	3	10		
5	**Educational status**								
	Primary	1	3.3	2	6.7	0	0	4.51	0.321
	Secondary	2	6.7	3	10	6	20	(df=4)	NS
	Graduate	1	3.3	8	26.7	7	23.3		
6	**Occupation**								
	Sedentary worker	1	3.3	3	10	4	13.3	0.203	0.903
	Moderate worker	3	10	10	33.3	9	30	(df=2)	NS
	Heavy worker	0	0	0	0	0	0		

7	**Number of children**								
	One	0	0	0	0	1	3.3		
	Two	1	3.3	4	13.3	5	16.7	4.66	0.588
	Three and above	2	6.7	6	20	7	23.3	(df=6)	NS
	None	1	3.3	3	10	0	0		
8	**Duration of stay**								
	Less than 1 year	0	0	1	3.3	3	10	5.42	0.247
	1-2 years	0	0	4	13.3	5	16.7	(df=4)	NS
	More than 3 years	4	13.3	8	26.7	5	16.7		
9	**History of previous medication**	0	0	5	16.7	3	10		
	<1 year	1	3.3	5	16.7	4	13.3	4.29	0.367
	1-2 years	3	10	3	10	6	20	(df=4)	NS
	More than 3 years								
10	**Duration of illness**								
	<3 yeas	1	3.3	2	6.7	4	13.3	3.05	0.550
	3-6 years	0	0	5	16.7	3	10	(df=4)	NS
	>6 years	3	10	6	20	6	20		
11	**Type of treatment**								
	Yes	2	6.7	8	26.7	7	23.3	1.46	0.833
	No	2	6.7	5	16.7	6	20	(df=4)	NS
12	**Mode of treatment**								
	Regular	1	3.3	1	3.3	6	20	7.89	0.096
	Irregular	3	10	6	20	3	10	(df=4)	NS
	Not taken	0	0	6	20	4	13.3		
13	**Bad habits**								
	Smoking	1	3.3	2	6.7	4	13.3		
	Alcohol	0	0	9	30	0	0	15.46	0.017
	Tobacco chewing	0	0	2	6.7	2	6.7	(df=4)	S
	None	3	10	0	0	7	23.3		

NS-Not significant, S-significant.

The above table revealed that regarding **age** majority 2(6.7%) belonged to age group of 70-75 and least nil belong to 65-70 years had normal blood pressure and majority 8(26.7%) belong to 65-70 years and least 2(6.7%) belong to age group of 60-65 years had mild blood pressure, majority 5(16.7%) were 70-75 years and least 4(13.3%) were 60-65 years and 65-70 years had moderate Blood pressure. The χ^2 5.75 was not significant at 0.05 levels.

Based on **gender**, majority of subjects 2(6.7%) were female and 2(6.7%) were male had normal blood pressure and majority 8(26.7%) were female and least 5(16.7%) were male had mild blood pressure and 7(23.3%) were belong to male and least 6(20%) female had moderate blood pressure. The χ^2value 0.64 was not significant at 0.05

Based on **religion**, majority of subjects 3(10%) were belong to Hindu and nil were belonged to Christian and Muslim had normal blood pressure, majority 7(23.3%) were Christian and least 1(3.3%) were Muslim had the mild blood pressure and majority 8(26.7%) were Hindu and least 2(6.7%) of them were Muslim had moderate blood pressure. The χ^2 value 5.19 was not significant at 0.05.

According to **marital status**, the subjects of majority 4(13.3%) were single and least nil was single and widow had the normal blood pressure, majority 6(20%) were single and married and least 1(3.3%) was widow had the mild blood pressure and majority 6(20%) were married and least 3(10%) were widow had moderate blood pressure. The χ^2 value 5.65 was not significant at 0.05

Regarding the **education**, majority 2(6.7%) were from secondary and least 1(3.3) were primary and graduate had normal blood pressure, majority 8(26.7%) were graduate and least 2(6.7%) were primary had mild blood pressure and 7(23.3%) were graduate and least no primary educate had moderate blood pressure. The χ^2 value 4.51 was not significant at 0.05.

Among the study participants, regarding **occupation,** majority 3(10%) were moderate worker and no heavy worker normal blood pressure, majority 10(33.3%) were moderate worker and no heavy worker had mild blood pressure and majority 9(30%) were moderate worker and no heavy worker had moderate blood pressure. The χ^2 value 0.203 was not significant at 0.05.

Regarding to the **Number of children**, majority 2(6.7%) were three and above and least nil children for one were normal blood pressure, majority 6(20%) were Three and above and least nil children for one had mild blood pressure and 7(23.3%) were Three and above and nil were belong to none had Moderate blood pressure. The χ^2 value 4.66 was not significant at 0.05.

Among the study participants, regarding **duration of stay** majority 4(13.3%) were More than 3 years stay in the old age home and least were belong to Less than 1 year had normal blood pressure, majority 8(26.7%) were More than 3 years and least 1(3.3%) were belong to less than 1 year had mild blood pressure and 5(16.7%) were belong to more than 3 years and 1-2 years and 3(10%) were belong to <1 year had moderate blood pressure. The χ^2 value 5.42 was not significant at 0.05.

according to the history of **previous of medication** majority 3(10%) were more than 3 years take medication and least nil were in less than 1 year had normal blood pressure, majority 5(16.7%) were less than 1 year and 1-2 years and least 3(10%) were more than 3 years had mild blood pressure and majority 6(20%) were more than 3 years and least 3(10%) were belong to <1 year had moderate blood pressure. the χ^2 value 4.29 was not significant at 0.05.

Regarding to the **Duration of illness** majority 3(10%) were >6 years and least nil were belong to 3-6 years had normal Blood pressure ,majority 5(16.7%)were between 3-6 years and least 2(6.7%) were belong less than 3 years had mild Blood

pressure, majority 6(20%) were belong to greater than 6 years and lest 3(10%) were belong 3-6 years had moderate Blood pressure. The χ^2 value was 3.05 was not significant at 0.05.

Among the study participants the **Type of treatment** majority 2(6.7%) were treatment taken and were not taken in normal Blood pressure, majority 8(26.7%) were treatment taken and least 5(16.7%) were belong to not taken in mild Blood pressure, majority 7(23.3%) were treatment taken and least 6(20%) were not taken in moderate Blood pressure. The χ^2 value was 1.46 was not significant at 0.05.

Among the study participants the **Mode of treatment** was majority 3(10%) were belong to regular treatment and least nil were not taken had normal blood pressure, majority 6(20%) were belong to irregular and not taken treatment and least 1(3.3%) were belong to regular treatment had mild Blood pressure and majority 6(20%) were belong to regular treatment and least 3(10%) were Not taken had moderate Blood pressure. The χ^2 value was 7.89 was not significant at 0.05.

Among the study participants **Bad habits** the majority 3(10%) none and least nil (0%) were belong to alcohol and Tobacco chewing had normal blood pressure, majority 9(30%) were alcohol and least nil (0%) were none had mild blood pressure and majority 7(23.3%) were no bad habits and least nil (0%) were belong to alcohol had moderate Blood pressure. The χ^2 value was 15.46 was significant at 0.017.

In experimental group the above table shows that the Bad habits was statistically significant association between the levels of blood pressure among the hypertensive clients in demographic variables.

SECTION D

Data on Association between the posttest blood pressure level among hypertensive clients in Control group.

Table -7: frequency percentage distribution of chi square control group

(N=30)

S.No	Demographic variables	Mild		Moderate		Severe		$\chi 2$ (df)	p-value (N/NS)
		f	%	f	%	f	%		
1	**Age (in years)**								
	60-65 years	4	13.3	7	23.3	3	10	0.75 (df=4)	0.946 NS
	65-70 years	2	6.7	6	20	4	13.3		
	70-75 years	1	3.3	2	6.7	1	3.3		
2	**Gender**								
	Male	3	10	6	20	4	13.3	0.213 (df=2)	0.899 NS
	Female	4	13.3	9	30	4	13.3		
3	**Religion**								
	Hindu	4	13.3	8	26.7	4	13.3	2.46 (df=4)	0.652 NS
	Christian	2	6.7	7	23.3	3	10		
	Muslim	1	3.3	0	0	1	3.3		
4	**Marital status**								
	Single	2	6.7	5	16.7	5	16.7	4.57 (df=4)	0.334 NS
	Married	5	16.7	7	23.3	2	6.7		
	Widow	0	0	3	10	1	3.3		
5	**Educational status**								
	Primary	1	3.3	3	10	0	0	1.81 (df=4)	0.770 NS
	Secondary	3	10	6	20	4	13.3		
	Graduate	3	10	6	20	4	13.3		
6	**Occupation**								
	Sedentary worker	2	6.7	2	6.7	4	13.3	3.61 (df=2)	0.165 NS
	Moderate worker	5	16.7	13	43.3	4	13.3		
	Heavy worker	0	0	0	0	0	0		

7	**Number of children**								
	One	0	0	2	6.7	0	0		
	Two	3	10	6	20	3	10	5.10	0.531
	Three and above	4	13.3	6	20	3	10	(df=6)	NS
	None	0	0	1	3.3	0	0		
8	**Duration of stay**								
	Less than 1 year	0	0	3	10	2	6.7	4.63	0.327
	1-2 years	1	3.3	6	20	2	6.7	(df=4)	NS
	More than 3 years	6	20	6	20	7	13.3		
9	**History of previous**								
	medication	1	3.3	4	13.3	0	0		
	<1 year	2	6.7	7	23.3	3	10	4.61	0.329
	1-2 years	4	13.3	4	13.3	5	16.7	(df=4)	NS
	More than 3 years								
10	**Duration of illness**								
	<3 yeas	2	6.7	3	10	4	13.3	6.39	0.172
	3-6 years	4	13.3	4	13.3	3	10	(df=4)	NS
	>6 years	1	3.3	8	26.7	1	3.3		
11	**Type of treatment**								
	Yes	4	13.3	11	36.7	3	10	4.89	0.299
	No	3	10	9	30	5	16.7	(df=2)	NS
12	**Mode of treatment**								
	Regular	1	3.3	5	16.7	2	6.7	1.44	0.837
	Irregular	4	13.3	5	16.7	3	10	(df=4)	NS
	Not taken	2	6.7	5	16.7	3	10		
13	**Bad habits**								
	Smoking	1	3.3	3	10	3	10		
	Alcohol	0	0	0	0	0	0	1.33	0.855
	Tobacco chewing	1	3.3	2	6.7	1	3.3	(df=4)	NS
	None	5	16.7	10	33.3	4	13.3		

Table 6:- revealed that regarding **age** majority 4(13.3%) belonged to age group of 60-65 years had mild blood pressure and least 1(3.3%) belonged to age group of 70-75 years, majority 7(23.3%) were 60-65 years and least 2(6.7%) were 70-75 years had moderate blood pressure, and majority 4(13.3%0 were belongs to 65- 70 years and least 1(3.3%) had severe blood pressure in the control group of post test. The χ^2 0.75 was not significant at 0.05 levels.

Based on **gender**, majority of subjects 4(13.3%) were female and least 3(10%) were male had mild blood pressure and majority 9(30%) were female and least 6(20%) were male had moderate and 4(13.3%) both male and female had severe blood pressure. The χ^2 value 0.213 was not significant at 0.05

Based on **religion**, majority of subjects 4(13.3%) were belongs to Hindu and 1(3.3) were belonged to Muslim had mild blood pressure, majority 8(26.7%) were Hindu and no Muslim had the moderate blood pressure and majority 4(13.3%) were Hindu and least 1(3.3%) of them were Muslim had severe blood pressure. The χ^2 value 2.46 was not significant at 0.05.

According to **marital status**, the subjects of majority 5(16.7%) were single and least nil widow had the mild blood pressure, majority 7(23.3%) were married and least 3(10%) was widow had the moderate blood pressure and majority 5(16.7%) were single and least 1(3.3%) were widow had severe blood pressure. The χ^2 value 4.57 was not significant at 0.05

Regarding the **education**, majority 3(10%) were from secondary and graduate and least 1(3.3) were primary had mild blood pressure, majority 6(20%) were secondary and graduate and least 3(10%) were primary had Moderate blood pressure and 4(13.3%) were secondary and graduate and no primary had severe blood pressure. The χ^2 value 1.81 was not significant at 0.05.

Among the study participants, regarding **occupation**, majority 5(16.7%) were moderate worker and no heavy worker mild blood pressure, majority 13(43.3%) were moderate worker and no heavy worker had Moderate blood pressure and 4(13.3%) were sedentary worker and moderate worker and no heavy worker had severe blood pressure. The χ^2 value 3.61 was not significant at 0.05.

Regarding to the **Number of children**, majority 4(13.3%) were three and above children and least no children for none were mild blood pressure, majority 6(20%) were two and three and above and least 1(3.3) none had Moderate blood pressure and 3(10%) were two and three and above and 0% one and none had severe blood pressure. The χ^2 value 5.10 was not significant at 0.05.

Among the study participants, regarding **duration of stay majority** 6(20%) were More than 3 years stay in the old age home and least were 1(0%) in less than 1 year had mild blood pressure, majority 6(20%) were 1-2 years and More than 3 years and least 3(10%) less than 1year had Moderate blood pressure and majority 4(13.3%) were more than three year had severe blood pressure. The χ^2 value 4.63 was not significant at 0.05.

According to the **History of previous medication** majority 4(13.3%) were More than 3 years take medication and least 1(3.3%) were in Less than 1 year had mild BLOOD PRESSURE, majority 7(23.3%) were 1-2 years and least 4(13.3) less than one year and more than 3 years had Moderate blood pressure and majority 5(16.7%) were more than 3 years and least nil had less than 1 year severe blood pressure. The χ^2 value 4.61 was not significant at 0.05.

Regarding to the **Duration of illness** majority 4(13.3%) were 3-6 years, least 1(3.3%) were more than 6 years had mild blood pressure and majority 8(26.7%) were greater than 6 years had moderate Blood pressure and majority 4(13.3%) were belong

to less than 3 years and least 1(3.3%) were belong to greater than 6 years had severe Blood pressure.

Among the study participants the **Type of treatment** majority 4(13.3%) had mild Blood pressure and 9(30%) were moderate blood pressure were taken treatment and 5(16.7%) had severe blood pressure were not taken treatment.

Among the study participants the **Mode of treatment** majority 4 (13.3%) belongs to ir regular, and least1(3.3%) belong to regular had mild blood pressure and 5(16.7%) belong to regular Irregular and not taken had moderate blood pressure, majority 3(10%) belong to regular and not taken treatment and least 2(6.7%) belong to regular had severe Blood pressure.

Among the study participants the **Bad habits** majority 5(16.7%) belong to no bad habit and least nil Alcohol had mild blood pressure, majority 10(33.3%) belong to no bad habit and least nil alcohol had moderate blood pressure and majority 4(13.3%) belong to no bad habit and nil alcohol had severe blood pressure.

In control group the above table shows that there was statistically no significant association between the levels of blood pressure among the hypertensive demographic variables.

Chapter V

Discussion

CHAPTER V

DISCUSSION

The aim of the present study was to assess the effectiveness of alternate nostril breathing exercise on hypertensive clients staying in the selected old age home at Dindigul District. The research design was quasi experimental design; sample size was 60, (30 in experimental and 30 in control group). Samples were selected by purposive sampling technique.

The pretest and posttest blood pressure was assessed by sphygmomanometer, the response was analyzed by descriptive statistic (mean, frequency, percentage, standard deviation and correlation) and inferential statistics paired 't' test, unpaired 't' test and χ^2. The demographic variables were age, gender, religion, marital status, educational status, occupation, number of children, duration of stay, history of previous illness, type of treatment, mode of treatment and bad habits. The major findings of the study based on the objectives were:

The first objective was to assess the pre test and post test level of Blood pressure among the hypertensive clients in experimental, control group. The findings of the study revealed in control group 6(20%) clients had mild hypertension, 16(53.3%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest. In the post test control group 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension. This showed that the level of blood pressure has not reduced in the control group.

In the experimental group 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest. In the post test experimental group 4(13.3%) had normal blood pressure, 13(43.3%) had mild and

moderate hypertension, no one had severe hypertension. This showed that the level of blood pressure has reduced in the post test.

The above findings are consistent with the findings of **Pinto Adrian (2013) Chennai** conducted a quasi experimental study on the effect of alternate nostril breathing on blood pressure in hypertensive women. A quasi experimental approach with nonprobability convenient sampling technique was used. Sample size was 60, out of which 30 was allotted to experimental and 30 to control group. The experimental group was taught breathing exercises and blood pressure was checked at various intervals and was compared with the control group. Result of this study revealed that there was a significant reduction in the blood pressure in the Experimental Group compared to control group.

The second objective was to assess the effectiveness of alternate nostril breathing among hypertensive clients of the experimental group. In experimental group the blood pressure among old age 7(23.3%) had mild hypertension, 15(50%) had moderate hypertension, 8(26.7%) had severe hypertension in the pretest. The post experimental group revealed the Blood pressure among old age, in which showed 4(13.3%) had normal hypertension, 13(43.3%) had mild hypertension and moderate hypertension and nil severe hypertension in the posttest. Table 4 Revealed that the mean post score in the experimental group systolic pressure was 148.6 and SD was 12.1 and the diastolic blood pressure in the experimental group mean score was 96 and the SD score was 7.39. The calculated 't' value was 6.24 which was significant at $p<0.001$ level. Therefore H1 stated in earlier, **"The mean post test level of blood pressure (above 150 mmHg) will be significantly lower than the mean pre test level of blood pressure among hypertensive elderly client in experimental group" was accepted.**

This finding reveals that in experimental group after the alternative nostril breathing exercise the level of blood pressure among the hypertensive clients were reduced in post test than the pretest but in control group there is no change in blood pressure level among the hypertensive clients.

The above findings are consistent with the findings of **Mohamed (2013) egypt** conducted a quasi experimental study to examine the effect of slow deep breathing exercises on blood pressure and heart rate among newly diagnosed patients with essential hypertension in medical and surgical departments at a general government hospital at Cairo, Egypt. Convenient samples of 120 adult patient aged 51-60 yrs and married were chosen for this study. blood pressure and heart rate measurements were taken before and after slow deep breathing exercise. The result was high statistical significant difference was found in systolic and diastolic blood pressure as well as in heart rate between before and after intervention. The study concluded that practicing slow deep breathing exercise decreased the systolic and diastolic blood pressure. Therefore alternate nostril breathing is effective in reducing the level of blood pressure among hypertensive clients.

The third objective is to find the association between the levels of blood pressure among the experimental group with selected demographic variables.

Table 8 revealed that regarding the **Bad habits** the majority 3(10%) Smoking and least nil were belong to alcohol and Tobacco chewing had normal Blood pressure, majority 9(30%) were no bad habits and least nil were alcohol had mild Blood pressure and majority 7(23.3%) were no bad habits and least 2(6.7%) were belong to tobacco chewing had moderate Blood pressure. The x2 value was 1.62 was significant at 0.805. Therefore H3 early stated that, **There will be a significant association between the posttest levels of blood pressure readings with the selected demographic variables**

of hypertensive clients in experimental and control group was accepted for the demographic variables.

Schmidt and colleagues,(2012) kolar reported similar findings about reduction of blood pressure level of mild, moderate and sever hypertension among the elderly clients in the community based area at kolar District at Karnataka by providing alternate nostril breathing exercise. It stated that Lifestyle modifications may prevent hypertension in prehypertensive individuals, serve as primary therapy in hypertensive participants before the start of drug therapy, and act as an adjunct to drug therapy for those already on medication. It is reported that lifestyle modification alone can reduce systolic blood pressure from 3 mm Hg to 32 mmHg and Diastolic Blood pressure from 2 mm Hg to 18 mm Hg.

In conclusion it is thought that the current intervention Alternate nostril breathing will assist in decreasing the blood pressure and symptoms among the hypertensive patients. Furthermore, it is also thought that it can add to the literature and increase understanding of individual' on prevention of hypertension and its complication.

Chapter VI

Summary & Recommendations

CHAPTER VI

SUMMARY AND RECOMMENDATION

This chapter deals with the summary, recommendation and conclusion of the study. It includes implementation for nursing practice, nursing education, nursing administration and research. The essence of any research project is based on study findings, limitations, interpretations of the research results and recommendation that incorporate the study implication. It also gives meaning to the results obtained from the study.

SUMMARY

The research design used for this study is quasi experimental design to assess the effectiveness of alternate nostril breathing on blood pressure among hypertensive clients in the selected old age homes at Dindigul District.

The research design was adopted for this study is a true – experimental design(pre test, post-test control group design). The experimental group adopted pre test, intervention and post test. And control group adopted pre test, no intervention and post test. The conceptual frame work based on Roy's adaptation model. It consists of three factors that is input , throughput, and output. The basis assumption of the theory is the nurse has to identify the client needs, ministering the needed help and finally validating that the need for help was met.

The sample size consists of 30elderly clients who are residing in Maria Anthonia Home for the aged at vellodu assigned for the control group and 30 elderly clients for the experimental group in St.Josephs home for the aged at kodairoad in Dindigul District. Pre test data was collected by the researcher using sphygmomanometer for both the groups on 1st day. Experimental group received

intervention of alternate nostril breathing exercise for 15 days. No intervention was given to control group. Post test was conducted by the researcher for the both the groups by using the same apparatus on the 15th day.

CONCLUSION

The current interventions Alternate Nostril Breathing will assist in maintaining normal blood pressure among hypertensive patient and help to reduce the complications of hypertension.

THE OBJECTIVES OF THE STUDY

1. To assess the pre test and post test level of Blood pressure among the hypertensive clients in experimental and control group.
2. To assess the effectiveness of alternate nostril breathing among hypertensive clients in experimental group and control group.
3. To find the association between the levels of blood pressure and their selected demographic variables of hypertensive clients in experimental and control group.

HYPOTHESIS

H_1: The mean post test level of blood pressure (above 140 mmHg) will be significantly lower than the mean pre test level of blood pressure among hypertensive clients experimental group.

H_2: The alternate nostril breathing will be more effective in controlling the level of blood pressure among hypertensive clients in the experimental group.

H_3: There will be a significant association between the posttest levels of blood pressure readings with the selected demographic variables of hypertensive clients in control and experimental group.

MAJOR FINDING OF THE STUDY

The finding reveals that in experimental group after the administration of alternate nostril breathing exercise the level of blood pressure among the hypertensive clients were reduced in post test than pre test. It can be concluded that there is no much difference in pre test and post test in control group.

OBJECTIVE I: To assess the pre test and post test level of Blood pressure among the hypertensive clients in experimental and control group.

Table 4 revealed to assess the effectiveness between the mean and SD in the Systolic blood pressure 148.9, 136.9 and 12.3 ,11.1 control posttest score and experimental post test scores. The effectiveness between the mean and SD in the diastolic blood pressure ,96,7.42 and 82.13,9.2 was the control post test score and experimental post test scores. The calculated mean difference between control and experimental post test of Alternate Nostril Breathing on Blood pressure among Hypertensive Clients are 12 and 13.87

OBJECTIVE II : To assess the effectiveness of alternate nostril breathing among hypertensive clients of the experimental and control group

There was the mean post score in the experimental group systolic pressure was 148.6 and SD was 12.1 and the diastolic blood pressure in the experimental group mean score was 96 and the SD score was 7.39. The calculated 't' value was 6.24 which was significant at $p<0.001$ level.

The mean post test score in the experimental group was 136.9 and SD was 11.1 and for systolic blood pressure. The mean post test score in the experimental group was 82.13 and SD 9.2 was and for diastolic blood pressure. The calculated 't' value was 7.42 which was significant at $p<0.001$ level.

OBJECTIVE III : To find the association between the levels of blood pressure among the experimental group with selected demographic variables.

Regarding age majority 2(6.7%) belonged to age group of 70-75 and least nil belong to 65-70 years had normal blood pressure and majority 8(26.7%) belong to 65-70 years and least 2(6.7%) belong to age group of 60-65 years had mild blood pressure, majority 5(16.7%) were 70-75 years and least 4(13.3%) were 60-65 years and 65-70 years had moderate blood pressure. The χ^2 5.75 was not significant at 0.05 levels.

Based on gender, majority of subjects 2(6.7%) were female and 2(6.7%) were male had normal blood pressure and majority 8(26.7%) were female and least 5(16.7%) were male had mild blood pressure and 7(23.3%) were belong to male and least 6(20%) female had moderate blood pressure. The χ^2value 0.64 was not significant at 0.05

Based on religion, majority of subjects 3(10%) were belong to hindu and nil were belonged to christian and muslim had normal blood pressure, majority 7(23.3%) were christian and least 1(3.3%) were muslim had the mild blood pressure and majority 8(26.7%) were hindu and least 2(6.7%) of them were muslim had moderate blood pressure. The χ^2 value 5.19 was not significant at 0.05.

According to marital status, the subjects of majority 4(13.3%) were single and least nil was single and widow had the normal blood pressure, majority 6(20%) were single and married and least 1(3.3%) was widow had the mild blood pressure and majority 6(20%) were married and least 3(10%) were widow had moderate blood pressure. The χ^2 value 5.65 was not significant at 0.05

Regarding the education, majority 2(6.7%) were from secondary and least 1(3.3) were primary and graduate had normal blood pressure, majority 8(26.7%) were graduate and least 2(6.7%) were primary had mild blood pressure and 7(23.3%) were

graduate and least no primary educate had moderate blood pressure. The χ^2 value 4.51 was not significant at 0.05.

Among the study participants, regarding occupation , majority 3(10%) were moderate worker and no heavy worker normal blood pressure, majority 10(33.3%) were moderate worker and no heavy worker had mild blood pressure and majority 9(30%) were moderate worker and no heavy worker had moderate blood pressure. The χ^2 value 0.203 was not significant at 0.05.

Regarding to the number of children, majority 2(6.7%) were three and above and least nil children for one were normal blood pressure, majority 6(20%) were three and above and least nil children for one had mild blood pressure and 7(23.3%) were three and above and nil were belong to none had moderate blood pressure. The χ^2 value 4.66 was not significant at 0.05.

Among the study participants, regarding duration of stay majority 4(13.3%) were more than 3 years stay in the old age home and least were belong to less than 1 year had normal blood pressure, majority 8(26.7%) were more than 3 years and least 1(3.3%) were belong to less than 1 year had mild blood pressure and 5(16.7%) were belong to more than 3 years and 1-2 years and 3(10%) were belong to <1 year had moderate blood pressure. The χ^2 value 5.42 was not significant at 0.05.

According to the history of previous medication majority 3(10%) were more than 3 years take medication and least nil were in less than 1 year had normal blood pressure, majority 5(16.7%) were less than 1 year and 1-2 years and least 3(10%) were more than 3 years had mild blood pressure and majority 6(20%) were more than 3 years and least 3(10%) were belong to <1 year had moderate blood pressure. The χ^2 value 4.29 was not significant at 0.05.

Regarding to the duration of illness majority 3(10%) were >6 years and least nil were belong to 3-6 years had normal blood pressure ,majority 5(16.7%)were between 3-6 years and least 2(6.7%) were belong less than 3 years had mild blood pressure, majority 6(20%) were belong to greater than 6 years and lest 3(10%) were belong 3-6 years had moderate blood pressure. The χ^2 value was 3.05 was not significant at 0.05.

Among the study participants the type of treatment majority 2(6.7%) were treatment taken and were not taken in normal blood pressure, majority 8(26.7%) were treatment taken and least 5(16.7%) were belong to not taken in mild blood pressure, majority 7(23.3%) were treatment taken and least 6(20%) were not taken in moderate blood pressure. The χ^2 value was 1.46 was not significant at 0.05.

Among the study participants the mode of treatment was majority 3(10%) were belong to regular treatment and least nil were not taken had normal blood pressure, majority 6(20%) were belong to irregular and not taken treatment and least 1(3.3%) were belong to regular treatment had mild blood pressure and majority 6(20%) were belong to regular treatment and least 3(10%) were not taken had moderate blood pressure. The χ^2value was 7.89 was not significant at 0.05.

Among the study participants bad habits the majority 3(10%) smoking and least nil were belong to alcohol and tobacco chewing had normal blood pressure, majority 9(30%) were no bad habits and least nil were alcohol had mild blood pressure and majority 7(23.3%) were no bad habits and least 2(6.7%) were belong to tobacco chewing had moderate blood pressure. The χ^2 value was 1.62 was not significant at 0.05.

IMPLICATIONS OF THE STUDY

The findings of the study had several implications on nursing practice, nursing education, nursing administration and nursing research.

NURSING PRACTICE

- The nurse can develop the skill in providing necessary education to the hypertensive clients who obtain themselves from the continuous treatment.
- The nurse has to develop knowledge regarding Hypertension and the incidence of Hypertension and their treatment without side effects and cost effective manners.
- The result of the study will help the nurse to enlighten their knowledge in alternative nostril breathing exercise concerned with the reduction of Hypertension.
- The nursing supervisors can provide in-service educations and continuous nursing education to nursing personnel to update their knowledge about various therapies and its valuable benefits to the Hypertensive clients and for the personal practice as a means of good healthy practices.

NURSING EDUCATION

- The nurse educator can create awareness to the student nurse about the alternative management and the treatment options which are available as unnoticed and with cost effective, easily available and accessible manner for Hypertension.
- The nurse educator while planning instruction for nursing students should educate the student nurses and also provide opportunities for them to gain the skill by teaching alternate nostril breathing exercise.

- The curriculum should emphasize the importance of alternate nostril breathing exercise for hypertension as part of syllabus requirement for the nursing students who are backbone of the health team.

NURSING ADMINISTRATION

- Nurses as administrators can influence the quality of nursing care in the community, they can also co-ordinate and discuss about the effectiveness of alternate nostril breathing exercise.
- Nurse administrators can encourage the staffs to conduct various programmes to the various nursing and health personnel related to the home management of hypertension which can be easily managed by the people in the community.

NURSING RESEARCH

Currently nursing practice is based on evidence based practice. So it is important to do research to equip the nurses to be an independent practitioner in various health care settings.

- Nurses and nursing students should undertake more research activities in easily available and acceptable methods in improving health and blood pressure rather than insisting on the regular medications.
- Nurses can assist researchers of other disciplines in the maintenance and improvement of new modalities in the treatment of hypertension.
- Develop network for new directions in research and collaboration with other Health care professionals for the effective treatment of Hypertension.
- This study can be effectively utilized by the emerging researchers for their reference purposes

LIMITATIONS

The small sample size in regard to gender in both the experimental and control group was a limitation to the study.

- The study was limited only to geriatric clients
- The sample size was limited to 60
- The intervention was limited for 15 days

RECOMMENDATIONS

Based on the findings of the present study, recommendations offered for future research are,

- A similar study can be conducted for a longer duration.
- The study may be replicated using large sample.
- A study can be conducted using other alternative methods or techniques for reducing severity of hypertension.
- A comparative study can be conducted to assess the severity
- A similar study can be conducted in community settings.

References

BIBLIOGRAPHY

BOOKS

1. Brunner and Suddharth.S.(2004) *Medical Surgical Nursing* (11th ed.) Philadelphia. Lippincott Company.
2. Basavanthappa, B.T. (2008). *Nursing research* (1st ed.) New Delhi. Jaypee Brothers Publications.
3. Basavanthappa, B.T. (2008). *Community health nursing* (1st ed.) New Delhi. Jaypee Brothers Publications.
4. Beare, P.G., et al.,(1998). *Adult Health Nursing* (3rd ed.) Philadelphia. Mosby Publications.
5. Berkantz et.al., (1996) *Essential in community Health Practise*, New Delhi. W.B.Saunders Company.
6. Black, J.M. & Hawks J.H.(2009) *Medical-Surgical Nursing Clinical Management for Positive Outcomes* (8th ed.) Philadelphia. Elsevier/Saunders Publications.
7. Cheryl tatano beck. (2004). *Nursing Research Principles and Methods* (7th ed.) Philadeiphia. Lippincott Williams and Wilkins publications.
8. Cladia & Smith. (2000) *Community Health Nursing Theory and practise* (2nd edition) Philadelphia W.B.Saunders company.
9. Clark.m.j. (1996) *Nursing in the Community* (2nd ed.) Standford. Appleton and Lange Publications.
10. Diana w. (2002). *Nursing Management of Hypertension* (5th ed.). New York Springer Publications.
11. Gupta.(2000). *Statistical Methods* (5th ed.) New Delhi. Sulthan Chand Publications

12. Gupta.(2007). *Preventive and Social Medicine* (3rd ed.) New Delhi. Jaypee Brothers Publications.
13. Hirmath D.A.(2004). *Essentials of Community Medicine a practical approach* New Delhi, JP Brothers.
14. Hungler B.P.(1999) *nursing Research Principles and Methods* (6th ed.) Philadelphia. Lippincott company.
15. Ignatavivius, D.D. (2010). *Medical-Surgical Nursing: Patient-Centered Collaborative Care* (6th ed.) Philadelphia. Elsevier/Saunders Publications.
16. Joyce, M.Black. (2003). *Medical Surgical Nursing*, (7th ed.) Philadelphia Saunders company.
17. Judith and Allender Barbara Walton Spready. (2002) *Community Health Nursing Concept and practice*, Philadelphia, Lippincott publication.
18. Kozier.B.(1995). *Fundamentals of Nursing Concept and Practices*. 5th ed., California, Addison-Wesley nursing.
19. Kulani.k.k.(2008). *Community Health Nursing Principles and Practice* 2nd ed. New Delhi, Kumar Publishing Practise.
20. Lewis.S.M.(2010). Medical *Surgical Nursing Assesment and Management of Clinical Problem* (7th ed.). St. Louis. Mosby Publications.
21. Lippincott. (1982). Manual of nursing Practices. (5th ed.). United States of America. Lippincott Publications.
22. Mahajan.B.K.(1991). *Methods in Statistics* (5th ed.) New Delhi, JP Brothers.
23. Marutha.R.A.(1997). *Nursing Theory Utilisation and application*.(1st ed) St.Louis.Mosby.
24. McMurray,A.(2006). *Community Health and Wellnes*s (3rd ed.) Philadelphia. Elsevier Publications.

25. Munro.B.H.(1997). *Statistical Methods For Health Care research*. (3rd ed.) Philadelphia. Lippincott company.

26. Nies.M.(2006). *Community/Public health Nursing* (4th ed.). Philadelphia Elsevier Publications.

27. Park.J.E.(2009). *Text Book of preventive and social medicine* (19th ed.) India.Banaridas Publications.

28. Patricia.P.(2005), *Basic Nursing Theory and Practice*(5th ed.) U.S.A.:Mosby Publications.

29. Peggy.(1994). *Theory and Nursing* (3rd ed.). New Delhi. St. Louis Publication.

30. Piyush.(2007). *Text book of preventive and social medicine*. (9th ed.) New Delhi. Jaypee Brothers Publications.

31. Prabhara.G.N.(2002). *Short Text Book of preventive and social Medicine*.(9th ed.) New Delhi. Jaypee Brothers Publications.

32. Rao.K.S.(2005). *An Introduction to community Health Nursing*(3rd ed.) Chennai. B.I. Publications.

33. Rao.(2004). *Methods of Biostatistics* (2nd ed.). Hyderabad. Para Medical publications.

34. Smeltzer.S. *Textbook of Medical-Surgical Nursing*(12th ed.) Philapelphia.Lippincott Williams & Wilkins publications.

35. Stanhope.(2008). *Community Health Nursing*(7th ed.). Philadelphia. Elsevier publications.

36. Sumathi.R.(2004). *Fundamentals of Food Nutrition Research and Diet Therapy*(5th ed) Chennai.B.I Publications.

37. Suresh Gopalini.(2008). *Diet and Nutrition Research*(1st ed.). New Delhi. Cyber Tech Publications.

JOURNALS

1. A Bhansali, V K Dhandania et.al.,(2015) Prevalence of and risk factors for hypertension in urban and rural India: the ICMR±INDIAB study.Journal of Human Hypertension 29, pp:204-209
2. Ahlawat.S.K et al.(2012 September) Time trends in the prevalence of hypertension and associated risk factors in Chandigrh, Journal of Indian Medical Association. 100(9): 546 and complete physiology. 299(4), pp.R1121-R113
3. Beegom R. (2001) diet, central obesity and prevalence of hypertension in the urban population of South India. Indian journal of cardiology.
4. Brinde. P. (2008 January) Prevalence awareness treatment and control hypertension in the elderly. Journal of Hypertension, 5, 1-58.
5. British hypertension society management guidelines, Health Publications (2007 September), 5, 254-257.
6. Beveridge LA, Struthers AD et.al., (2015) Effect of Vitamin D Supplementation on Blood pressure: A Systematic Review and Meta-analysis Incorporating Individual Patient Data.JAMA Intern Med. May 1;175(5): pp:745-54.
7. Barclay L.(2008) "The Disease-Fighting Power of Polyphenols." *LE Magazine*, February.
8. Chen.Z.Y (2009, July) Anti hypertensive nutraceuticals and functional foods American Chennai Society. 57, 4485-4499.
9. Chobamin.A.V. (2003 February) The Seventh report of National Committee on Hypertension. Journal of American Medical Association,289, 2560-2574.
10. Chua.B. (2005 September) Temporal changes in the control of blood pressure in an older Australian population. Journal of human Hypertension 19(9) : 691-693.

11. Cihangir (2009 August) Prevalence of uncontrolled hypertension and associated risk factors among Turkish adults. Journal of Public Health, 31, 47-58.
12. Colin. Fighting heart disease and stroke (2001 October) American Heart Associaton, (2001), 3:305-312
13. Damodharan.A. et al.(2002 April) Therapeutic potential of yoga practices in modifying cardiovascular risk profile miidle aged men and women. Journal of Association of Physicians, 50, 33-40.
14. Denver (2008) Home Health monitoring may significantly improve blood pressure control, American Heart Association, 15, 425-428.
15. Family History Studies in Hypertension Research Review of the Literature (1993) Am J Hypertens;6,pp:76-88
16. Framingham Cohort (2005). High normal BLOOD PRESSURE on the risk of cardiovascular disease. American Journal of Epidemiology, 38, 136-140.
17. Gilberts EC, Arnold MJ, Grobbee DE. Hypertension and determinants of blood pressure with special reference to socioeconomic status in a rural south Indian community. J Epidemiol Community Health 1994;48:258-61.
18. Gupta.R. (2009). Trends in hypertension epidemiology in India. Journal of Human Hypertension 18, 73-78.
19. Gupta.R.(2009). High Prevalence of multiple coronary risk factors in Punjab Bhatia Community:Jaipur heart watch 3. Indian Heart Journal56(6) :pp: 646-652.
20. Hariharan.S (2009 August) Prevalence of uncontrolled hypertension in adult outpatients in Trinidad. West Indian Medical Journal, 55:5
21. Heather et al.(2008 December) Blood pressure reactivity to psychological stress predicts hypertension circulation, Journal of Hypertension,1,10 : 74.

22. Hazarika NC, Biswas D, et.al., Hypertension and its risk factors in tea garden workers of Assam. Natl Med J India 2002; 15:63±68

23. Hud.E.Gossman (2009 June) Prevalence of Uncontrolled Hypertension and hypertension.National Committee, 298:2450-2462.

24. Hyun Young Kim et.al., (2010) The protective role of amla (Emblica officinalis Gaertn.) against fructose-induced metabolic syndrome in a rat model.British Journal of Nutrition ,Volume 103,Issue 04 , pp 502-512

25. Huang WY, Davidge ST, Wu J. Bioactive natural constituents from food sources-potential use in hypertension prevention and treatment. Crit Rev Food Sci Nutr. 2013;53(6):615-30. doi:10.1080/10408398.2010.550071. Review. PubMed PMID: 23627503.

26. Indian guidelines on hypertension (I.G.H.) III. 2013, Journal of the Association of Physicians of India, vol. 61, no. 2, supplement, pp. 6±36, 2013.

27. Juraschek SP, et.al.,(2012) Effects of vitamin C supplementation on blood pressure: a meta-analysis of randomized controlled trials.Am J Clin Nutr.

28. John Maher, DC, DCBCN, BCIM (2005) Super Fruits: The Power of Polyphenols 1st International Conference on Polyphenols and Health

30. Lye, H. S., Kuan, C. Y., Ewe, J. A., Fung, W. Y., & Liong, M. T. (2009). The improvement of hypertension by probiotics: effects on cholesterol, diabetes, renin, and phytoestrogens. International journal of molecular sciences, 10(9), 3755-3775.

31. Madhumitha M et.al.,(2014) hypertension ± prevalence and risk factors among urban population in north karnataka .International Journal of Current Research and Review, Periodical of Radiance Research Academy, Nagpur, M.S., India IJCRR. ; 6(7): 39-45

NET REFERENCES

1. http://health.bih.nic.in/Docs/Guidelines/Guidelines-NPCDCS.
2. http://www.ayurvedahc.com
3. www.npicenter.com/anm/templates/newsATemp.aspx
4. http://hyper.ahajournal.org
5. http://www.who.int/nmh/countries/ind_en.pdf
6. http://www.cmaj.ca
7. www.mendeley.com
8. http://altmedicine.about.com
9. http://clinicaltrails.gov
10. http://www.thehealthsite.com/diseases-conditions/hypertension/001/PubMed
11. www.who.int/healthinfo/systems/sage
12. Medline//Web of Science//Google Scholar

Annexure

ANNEXURE - I

PERMISSION SEEKING LETTER TO CONDUCT THE STUDY

SAKTHI COLLEGE OF NURSING

(Approved by Govt. of Tamilnadu, Recognised by INC, TNC & Affiliated to Dr. M.G.R. Medical University)

Sakthi Nagar, Dindigul - Palani Main Road,
Palakkanuthu - (Po.),
Oddanchatram - 624 619.
Dindigul (Dt.), Tamilnadu.

Phone : 0451 - 2050272
Mobile : 97509 56810
Fax : 0451-2554317
E-mail : sakthinursingcollege@gmail.com

PERMISSION LETTER

From

The Principal,
Sakthi College of Nursing,
Oddanchatram, Dindigul (Dt)

To

Rev. Sr-Superior.
Maria Anthonia Home for the aged
Valloodu.

Respected Sir / Madam,

Sub.: Request for permission to conduct Data collection for Dissertation work– reg.

S.MERCY AMALI CHINNARANI is a bonafide M.Sc., Nursing student studying in our college. As a partial fulfillment of The Tamilnadu Dr. MGR Medical University requirement for the award of the M.Sc., Nursing Degree, she is undertaking **("A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES.")**, she has identified your centre as the best place to conduct the study.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide to the rules and regulations of the institution. All the information collected from institution will be kept confidential.

I kindly request you to grant her permission to conduct the study at your esteemed institution.

Thanking you,

yours sincerely,

PRINCIPAL
Sakthi College of Nursing
Sakthi Nagar, Palakkanuthu
Dindigul - (Dist)
624 624

Date :

Place :

Sr. Mahimai Malar,
Sr. Superior,
Maria Anthonia Home for the Aged
Adiyanoothu-PO
Dindigul-624003.

SAKTHI COLLEGE OF NURSING

(Approved by Govt. of Tamilnadu, Recognised by INC, TNC & Affiliated to Dr. M.G.R. Medical University)

Sakthi Nagar, Dindigul - Palani Main Road,
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Phone : 0451 - 2050272
Mobile : 97509 56810
Fax : 0451-2554317
E-mail : sakthinursingcollege@gmail.com

PERMISSION LETTER

From

The Principal,
Sakthi College of Nursing,
Oddanchatram, Dindigul (Dt)

To

Rev. Fr. Thomas
Director
St. Joseph's Home for the aged
Kodairoad.

Respected Sir / Madam,

Sub.: Request for permission to conduct Data collection for Dissertation work– reg.

S.MERCY AMALI CHINNARANI is a bonafide M.Sc., Nursing student studying in our college. As a partial fulfillment of The Tamilnadu Dr. MGR Medical University requirement for the award of the M.Sc., Nursing Degree, she is undertaking **("A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES.")**, she has identified your centre as the best place to conduct the study.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide to the rules and regulations of the institution. All the information collected from institution will be kept confidential.

I kindly request you to grant her permission to conduct the study at your esteemed institution.

Thanking you,

yours sincerely,

PRINCIPAL
Sakthi College of Nursing
Sakthi Nagar, Palakkanuthu
Dindigul - (Dist)
624 624

Date :

Place :

You are welcome
Fr. R.V Thomas

DIRECTOR
ST. JOSEPH'S HOSPICE
(For Dying Destitute)
METTUR GATE (Po) KODAI ROAD (Via)
DINDIGUL (DT), TAMILNADU - 624 206
Cell: 93608 76678, 99762 11721

SAKTHI COLLEGE OF NURSING

(Approved by Govt. of Tamilnadu, Recognised by INC, TNC & Affiliated to Dr. M.G.R. Medical University)

Sakthi Nagar, Dindigul - Palani Main Road,
Palakkanuthu - (Po.),
Oddanchatram - 624 619.
Dindigul (Dt.), Tamilnadu.

Phone : 0451 - 2050272
Mobile : 97509 56810
Fax : 0451-2554317
E-mail : sakthinursingcollege@gmail.com

PERMISSION LETTER

From

The Principal,
Sakthi College of Nursing,
Oddanchatram, Dindigul (Dt)

To

Sr. Elizabeth Rani
Infant Jesus Home for the aged
Nilakottai.

Respected Sir / Madam,

Sub.: Request for permission to conduct Data collection for Dissertation work– reg.

S.MERCY AMALI CHINNARANI is a bonafide M.Sc., Nursing student studying in our college. As a partial fulfillment of The Tamilnadu Dr. MGR Medical University requirement for the award of the M.Sc., Nursing Degree, she is undertaking (**"A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES."**), she has identified your centre as the best place to conduct the study.

Further details of the proposed project will be furnished by the student personally. She will not hinder your routine in any way and she will abide to the rules and regulations of the institution. All the information collected from institution will be kept confidential.

I kindly request you to grant her permission to conduct the study at your esteemed institution.

Thanking you,

yours sincerely,

Date :

Sr. Elizabeth Rani

Place :

Ithaya Bhavan-Home for Aged
Infant Jesus Farm
Kalkottai pirivu
SIRUNAYAKKANPATTY POST
Vilampatty Via
Dindigul Dist-624 219

PRINCIPAL
Sakthi College of Nursing
Sakthi Nagar, Palakkanuthu
Dindigul - (Dist)
624 624

ANNEXURE - II

PERMISSION LETTER FOR CONTENT VALIDITY

From

S. Mercy Amali Chinnarani
M.Sc Nursing IInd Year,
Sakthi College of Nursing,
Oddanchatram, Dindigul.

To

Respected sir / madam,

Sub: - Requisition from expert opinion and content validity reg.

I am II Year MSc Nursing student Sakthi College of Nursing Oddanchattram, Dindigul under Tamilnadu Dr.MGR Medical University.

As a partial fulfillment of M.Sc Nursing Degree program, I am conducting a research study on **"A Study To Assess The Effectiveness Of Alternate Nostril Breathing On Blood pressure Among Hypertensive Clients In Selected Old Age Homes At Dindigul District"**

I am sending the research tool for content validity and request you to give your expert and valuable review and opinion. I will be very thankful if you return at the earliest. Here with I have enclosed the necessary documents.

Thanking you

Yours sincerely,

Enclosure: S. Mercy Amali

1. Statement of the problem and objectives of the study
2. Tool for data collection
3. Brief note on the research methodology and intervention tool
4. Certificate of content validity

ANNEXURE - III

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A Study To Assess The Effectiveness Of Alternate Nostril Breathing On Blood Pressure Among Hypertensive Clients In Selected Old Age Homes At Dindigul District"** is valid. She can proceed in conducting data collection.

DR. PANDIA RAJA, M.D.,
Reg. No. 107565
Leonard Hospital
Batlagundu

Name of the institution/Hospital:

Signature

Designation: M.D General medicine

Place: Batlagundu

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES"** is valid. She can proceed in conducting data collection.

Signature

CHRISTIAN COLLEGE OF NURSING, AMBILIKKAI
Name of the institution/Hospital:

Designation: ASSOCIATE PROFESSOR

Place: AMBILIKKAI, DINDIGUL

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES"** is valid. She can proceed in conducting data collection.

S. Mercy

Signature

PRINCIPAL
SERVITE COLLEGE OF NURSING
MANIKANDAM (PO)
EDAMALAIPATTIPUTHUR (VIA)
TRICHIRAPPALLI - 620 012.

Name of the institution/~~Hospital~~: SERVITE COLLEGE OF NURSING. TRICHY-12.

Designation: PRINCIPAL.

Place: TRICHY-12

Date:

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES"** is valid. She can proceed in conducting data collection.

J. Lathesha Bala 12/6/18
Signature

Name of the institution/Hospital: Texcity college of Nsg

Designation: Mrs. Lithesha MSc Nsg. Associat professer.

Place: Coimbatore.

Texcity College of Nursing Coimbatore 23

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A STUDY TO ASSESS THE EFFECTIVENESS OF ALTERNATE NOSTRIL BREATHING ON BLOOD PRESSURE AMONG HYPERTENSIVE CLIENTS IN SELECTED OLD AGE HOMES"** is valid. She can proceed in conducting data collection.

Signature

Name of the institution/~~Hospital~~: Dr. Mahalingam Institute of paramedicals and research.

Designation: Reader.

Place: Sakthinagar.

CERTIFICATE OF CONTENT VALIDITY

TO WHOM SO EVER IT MAY CONCERN

This is to certify that the tool prepared by S. Mercy Amali Chinnarani, MSc(N) II Year student of Sakthi College of Nursing for the conduction of the research study on **"A Study To Assess The Effectiveness Of Alternate Nostril Breathing On Blood Pressure Among Hypertensive Clients In Selected Old Age Homes At Dindigul District"** is valid. She can proceed in conducting data collection.

Name of the institution/Hospital:

Signature

Designation: M.Sc (N), Reader

ANNEXURE - IV

LIST OF EXPERTS

1. **Dr. Mr. Pandiaya Raja, M.D.,**

   Leonard Hospital,
   Batlagundu.

2. **Mrs. V.Janahi Devi M.Sc(N), (P.hd)**

   Principal
   Sakthi college of Nursing
   Oddanchathram
   Dindigul (Dt).

3. **Mrs. Shobana M. Sc(N)**

   Associate Professor,
   Christian College of Nursing,
   Ambilikkai.

4. **Mrs. Mangaiyarkarasi, M.Sc(N)**

   Associate Professor,
   Servite College of Nursing,
   Trichy.

5. **Mrs. Littreshia M. Sc (N)**

   Associate Professor,
   Texcity College of Nursing
   Coimbatore.

6. **Mrs. Juliet Nirmala Mary**

   Reader
   Magalingam College of Nursing
   Erode.

7. **Mrs. Lancy, M.Sc(N)**

   Reader
   Sacred Heart College of Nursing
   A.Velodu, Dindigul

ANNEXURE – V

CONSENT FORM

Dear Participants,

I am S.Mercy Amali Chinnarani, M.Sc(N) II year student of Sakthi College of Nursing, Oddanchatram. As a part of my study, a research on "Effectiveness of alternate nostril breathing on hypertension among elderly hypertensive clients in Dindigul District" is to be conducted. The study will be helpful to reduce the blood pressure and prevent complications to the hypertensive clients.

I hereby seek your consent and co-operation to participate in the study. I request you to be frank and honest in your responses. The information collected will be kept confidential and anonymity will be maintained.

Thanking you,

Signature of the researcher.

Hereby I……give consent to participate and undergo the study.

Date:

Time:

பின்னிணைப்பு– V

உடல் நல ஆய்வில் பங்குகொள்ள ஒப்புதல் படிவம்

அன்பார்ந்த பங்களிப்பாளர்களே..

சகோதரி S. மெர்சி அமலி சின்னராணி ஆகிய நான் சக்தி செவிலியர் கல்லூரியில் முதுகலை பட்டம் பெறுவதற்கான பயிற்சியின் ஒரு பகுதியாக திண்டுக்கல் மாவட்டத்தில் தேர்ந்தெடுக்கப்பட்ட முதியோர் இல்லங்களில் உள்ள இரத்தக் கொதிப்பால் பாதிக்கப்பட்ட முதியோர்களுக்கு இரத்த கொதிப்பை கட்டுப்படுத்த உதவும் மாற்று மூச்சு சுவாசப் பயிற்சி பற்றிய ஆய்வு மேற்கொள்ளவுள்ளேன்.

ஆகையால் இந்த ஆய்வில் நீங்கள் பங்குபெற உங்களுடைய ஒப்புதல் மற்றும் ஒத்துழைப்பையும் வேண்டுகிறேன் . மேலும் உங்களுடைய பதில்கள் வெளிப்படையாகவும் , உண்மையாகவும் இருக்க வேண்டும். உங்களுடைய குறிப்புகள் அனைத்தும் இரகசியமாக வைக்கப்படும். உங்களுடைய பெயர் வேறு எங்கும் வெளியிடப்படமாட்டாது என்பதையும் தெரிவித்துக் கொள்கிறேன்.

ஆராய்ச்சியாளரின் கையொப்பம்.

நான் ..... இந்த ஆராய்சியில் பங்குபெற என் முழு ஒப்புதலை அளிக்கிறேன்.

பங்குபெறுவோரின் கையொப்பம்.

தேதி :

நாள் :

ANNEXURE - VI

CERTIFICATE FOR ENGLISH EDITING

This is to certify that the dissertation work **"A Study To Assess The Effectiveness of Alternate Nostril Breathing on Blood pressure Among Hypertensive Clients In Selected old age Homes At Dindigul District",** done by S. Mercy Amali Chinnarani, II Year, M.Sc.(Nursing) student of Sakthi college of Nursing, has been edited for English language appropriateness by Mrs.S.Anamica ,MA.,M.Phil.,(P.hd)

S. Anami

Signature

ANNEXURE - VII

CERTIFICATE FOR TAMIL EDITING

This is to certify that the dissertation work **"A Study To Assess The Effectiveness of Alternate Nostril Breathing on Blood pressure Among Hypertensive Clients In Selected old age Homes At Dindigul District",** done by S. Mercy Amali Chinnarani, II Year, M.Sc.(Nursing) student of Sakthi college of Nursing, has been edited for Tamil language appropriateness by Dr.Sr.I.ALPHONSE.

I. Alphonse

Signature

APPENDIX - VIII

SAKTHI COLLEGE OF NURSING

CERTICICATE FOR ETHICAL CLEARANCE

Committee members	
Chairman 1.Dr.K Vembanan, M.B.B.S.,M.S President , Sakthi Educational Institution **Members** 1. Prof.Janahi Devi.V M.Sc (N) Principal Sakthi college of Nursing 2. Dr.Amburose Raj. M.B.B.S., DCH Baby dot care hospital, Dindigul. 3. Mr.Palanisamy, B.A.B.L., Advocate 4. Mr.Diaz Prabhakaran, M.A., Sociology 5. Ms.Mariyammal, Ph.D., Psychology	This if to certify that S.Mercy Amali Chinnarani M.Sc IInd year nursing student, Medical and Surgical Nursing Submitted a protocol on study To assess the effectiveness of Alternate Nostril Breathing on Blood Pressure Among hypertensive Clients in selected old age homes at Dindigul District. The above protocol was received by ethical clearance committee and was approved and mentioned that the study is feasible to carry out under the guidance of an eligible guide. **Signature of the chairman**

ANNEXURE – IX

YOGA CERTIFICATE

Vazhga Vaiyagam Vazhga Valamudan

THE WORLD COMMUNITY SERVICE CENTRE,CHENNAI

Regd No.84/1958 & 22/1993 Under T.N.S.R Act 27/75
Ph:044-24411692 E-Mail:chennai.wcsc@vethathiri.org

Affiliated Trust

TEMPLE OF CONSCIOUSNESS

2/428, Vethathiri Nagar, Dindigul-624 004.
Ph : 0451-2460461

CERTIFICATE

This is to certify that

~~Selvan~~/ Selvi. S. Mercy Amali Chinnarani

has successfully Participated the

SKY YOGA FOR HOLISTIC HEALTH- FOUNDATION COURSE

held at Temple Of Consciousness,Dindigul.

From .....12-2-18..... to .26-2-18.....

Be Blessed by the Divine Power

For The President
The World Community Service Centre

ANNEXURE – X

DEMOGRAPHIC VARIABLE

Introduction to Participants:

Dear Participants,

This section consists of the personal information and you are requested to answer the question correctly. The information collected from you will be kept confidential.

Sample No: ☐

Read the following items carefully and complete them by ticking the right option

1. Age (in years) : a) 60 - 65 years
   : b) 65 - 70 years
   : c) 70 - 75 years

2. Gender : a) Male
   b) Female

3. Religion : a) Hindu
   b) Christian
   c) Muslim

4. Marital Status : a) Single
   b) Married
   c) Widow

5. Educational Status : a) Primary
   b) Secondary
   c) Graduate

6. Occupation : a) Sedentary Worker
   b) Moderate Worker
   c) Heavy Worker

7. Number of children	:	a) One b) Two c) Three and above d) None
8. Duration of stay in the old age home	:	a) Less than one year b) 1 - 2 years c) More than 3 years
9. History of previous medication	:	a) Less than one year b) 1 - 2 years c) More than 3 years
10. Duration of illness	:	a) Less than 3 years b) 3 – 6 years c) > 6 years
11. Type of treatment	:	a) Yes b) No
12. Mode of Treatment	:	a) Regular b) Irregular c) Not Taken
13. Bad Habits	:	a) Smoking b) Alcohol c) Tobacco chewing d) None

முதியோர்களின் சுயவிவரம்

1	வயது	அ)60 - 65 வருடம்	☐
		ஆ)65 - 70 வருடம்	☐
		இ) 70 - 75 வருடம்	☐
2	பாலினம்	அ) ஆண்	☐
		ஆ) பெண்	☐
3	மதம்	அ) இந்து	☐
		ஆ) கிறிஸ்துவம்	☐
		இ) இஸ்லாம்	☐
4.	வாழ்க்கை நிலை	(அ) திருமணம் ஆனவர்	☐
		(ஆ) திருமணம் ஆகாதவர்	☐
		(இ) விதவை	☐
5	கல்வி தகுதி	(அ) தொடக்கக்கல்வி	☐
		ஆ) உயர்நிலை கல்வி	☐
		(இ) பட்டயபடிப்பு	☐
6	தொழில் வகை	அ) எளிமையான வேலை	☐
		ஆ) கடுமையான வேலை	☐
		இ) மிக கடுமையான வேலை	☐
7.	குழந்தைகள்	(அ) ஒன்று	☐
		(ஆ) இரண்டு	☐
		(இ) முன்று அதற்கும் மேல்	☐
		(ஈ) குழந்தை இல்லை	☐

8.	முதியோர் இல்லத்தில் தங்கிய ஆண்டுகள்	(அ) 0 - 1 வருடம்	☐
		(ஆ) 1 – 2 வருடம்	☐
		(இ) 3 வருடத்திற்கு மேல்	☐
9.	முந்தைய மருத்துவ ஆய்வு	(அ) 0 - 1 வருடம்	☐
		(ஆ) 1 – 2 வருடம்	☐
		(இ) 3 வருடத்திற்கு மேல்	☐
10.	இரத்த அழுத்தம் உள்ள ஆண்டுகள் :	(அ) 0 – 3 வருடம்	☐
		(ஆ) 3 – 5 வருடம்	☐
		(இ) 5 வருடத்திற்கு மேல்	☐
11.	சிகிச்சை பெரும் விதம்	(அ) ஆம்	☐
		(ஆ) இல்லை	☐
12.	சிகிச்சை பெரும் முறை	அ) தொடற்சியாக	☐
		ஆ) தொடற்சியின்றி	☐
13.	தவறான பழக்க வழக்கம்	(அ) புகைபிடித்தல்	☐
		(ஆ) மதுபழக்கம்	☐
		(இ) புகையிலை	☐
		(ஈ) ஏதுமில்லை	☐

Scoring Key

Pre assessment blood pressure in mm Hg

140 – 149/ 90 – 99	Mild hypertension	- 1
150 – 159/100 – 99	Moderate hypertension	- 2
160 – 180/ 100 – 120	Severe Hypertension	- 3

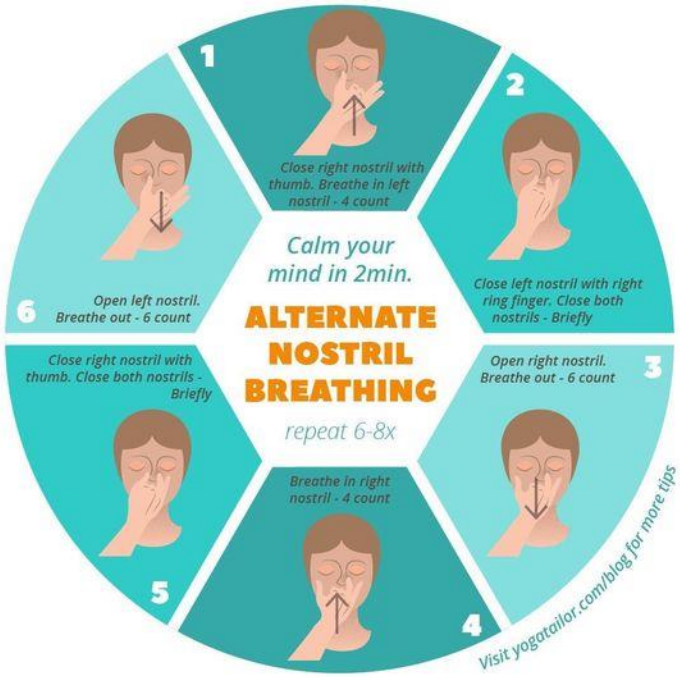
Post assessment systolic and diastolic blood pressure in mm Hg:

No Reduction	- 1
<5 Reduction	- 2
6-10 Reduction	- 3
11 – 15 Reduction	- 4
>15 Reduction	- 5

Content of Alternate Nostril Breathing

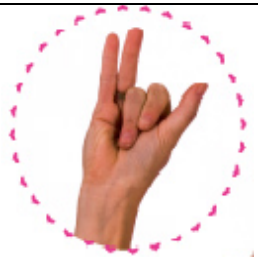
ANNEXURE – XI

S. No	Specific objectives	Content	Researcher's activity	Learner's activity
1		**INTRODUCTION** 	Explaining the steps	Listening
2	**List out the steps of Alternate Nostril Breathing**	**Alternate Nostril Breathing (*Nadi Sodhan*)** This simple, yet most powerful technique, is a pranayam that is easy to do, yet can take you through all the stages of your yoga practice.		

3		**How to do Alternate Nostril Breathing:**  • In this pranayam, the breath is always relaxed, deep and full. • Use the thumb of the right hand to close the right nostril, and the index finger or ring finger of the right hand to close the left nostril. • Close the right nostril and gently and fully inhale through the left nostril.	Demonstration	Practicing

4 5	**Describing the Benefits of Alternate Nostril Breathing** **Demonstrate the procedure of Alternate**	• Then close the left nostril and exhale through the right nostril. • Then inhale through the right nostril. • Close the right nostril and exhale through the left nostril. • Continue repeating, alternating nostrils after each inhalation. **Benefits of Alternate Nostril Breathing:** □ Creates whole brain functioning by balancing the right and left hemispheres. □ Is both integrating and grounding. □ Purifies the *ida* and *pingala nadis*, gently. □ Creates a deep sense of well-being and harmony on the physical, mental, and emotional levels. □ Can help with headaches, migraines, and other stress-related symptoms. **Procedure** □ **Inhale left, exhale right**: Helps to make you calm and integrates unwanted negative emotions and stress. Excellent by itself before bed. □ **Inhale right, exhale left:** Gives clarity, and positive mood. Helps us to focus on what is important.	Discussing	Listening

	Nostril Breathing	**Nadi Cleansing ("U" Breathing):** A powerful, classical technique which utilizes Nadi Sodhan as well as Breath Ratios. **Breath Ratios** When breathing in different breath ratios, we are changing the amount of time that we take to inhale, hold, and exhale the breath. In general, we breathe in an equal breath ratio—equal inhale, equal exhale. Consciously using different breath ratios can yield varied effects. By **emphasizing inhaling**, the sympathetic part of the autonomic nervous system boosts the heart rate and blood pressure, boosts alertness and stimulates us. By **emphasizing exhaling**, the parasympathetic nervous system slows the heartbeat and relaxes the circulation, nerves, and digestive system. It relaxes us and promotes elimination, both physically and emotionally.		

6		 You can use mantra to measure the ratios. For example: **1:4:2 (Inhale I, hold 4, exhale 2**). This is used in the Nadi Cleansing pranayam. It is powerfully purifying and cleansing. **Conclusion :** Through the simple mechanism of closing or opening one of the nostrils, the yogi has a wide array of techniques to control his moods and energies. The nerves going out from the two brain hemispheres cross at the level of the eyebrows. We breathe predominantly through one nostril or the other at any given time. The dominant nostril alternates rhythmically every 90 to 150 minutes. The length of the cycle reflects universal rhythms, individual temperament, and the personal state of mental and physical balance. You may use the technique of inhaling and exhaling exclusively through either the left or right nostril in order to benefit from the quality associated with that nostril.	Explaining	Listening

ANNEXURE – XII